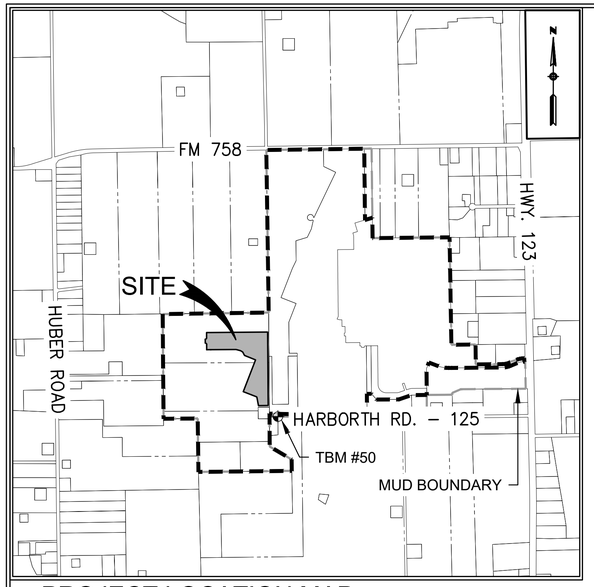
LONE OAK FARM M.U.D.
NAVARRO SUBDIVISION UNIT 9
GUADALUPE COUNTY, TX
CIVIL SITE CONSTRUCTION PLANS



PROJECT LOCATION MAP SCALE: N.T.S.

PROJECT BENCHMARK

TBM #50
MAG IN ASPHALT
N 13799549.357
E 2292727.800
ELEV. 611.35

LEGAL DESCRIPTION

BEING 18.123 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO.20, GUADALUPE COUNTY, TEXAS, BEING COMPRISED OF THE FOLLOWING FIVE TRACTS:
1) A CALLED 38.8986 ACRE TRACT, "TRACT A", RECORDED IN VOLUME 950, PAGE 754, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS;
2) A CALLED 37.2562 ACRE TRACT, "TRACT B", RECORDED IN VOLUME 938, PAGE 791, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS;

PROJECT DESCRIPTION

THIS PROJECT CONSISTS OF 30 PROPOSED RESIDENTIAL LOTS WITH ASSOCIATED GRADING, DRAINAGE, STREETS, AND UTILITY IMPROVEMENTS.

REVIEW OF THE PLANS BY THE DISTRICT IS LIMITED TO DISTRICT–OWNED FACILITIES, AND DOES NOT INDICATE A REVIEW OF THE ADEQUACY OF THE DESIGN FOR THE FACILITIES. IN APPROVING THESE PLANS, THE DISTRICT MUST RELY ON THE ADEQUACY OF THE WORK OF THE DESIGN ENGINEER.

_____
DISTRICT ENGINEER

LENNAR HOMES
100 NE LOOP 410, SUITE 1155
SAN ANTONIO, TX 78216

REQUIRED PERMITS	NUMBER
1. GUADALUPE COUNTY	#
2. CITY OF SEGUIN	#
3. CRYSTAL CLEAR SUD	#

NOVEMBER 2025

11/20/2025
STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED
PROFESSIONAL ENGINEER

ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, GUADALUPE COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.

_____
Zoe F. Jasso
P.E. Registration No. 131964

PREPARED BY:

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Sheet List Table	
Sheet Number	Sheet Title
C0.0	COVER SHEET
C0.1	GENERAL NOTES
C0.2	MASTER PLAN
C0.3	PLAT (1 OF 3)
C0.4	PLAT (2 OF 3)
C0.5	PLAT (3 OF 3)
C1.0	EXISTING DRAINAGE MAP
C1.1	PROPOSED DRAINAGE MAP
C1.2	ULTIMATE DRAINAGE MAP
C2.0	EROSION CONTROL PLAN
C2.1	EROSION DETAILS
C3.0	GRADING PLAN
C3.1	GRADING DETAILS
C4.0	LUCIANO TRAIL PLAN & PROFILE
C4.1	STREET B PLAN & PROFILE
C4.2	SIGNAGE PLAN
C4.3	STREET DETAILS (1 OF 3)
C4.4	STREET DETAILS (2 OF 3)
C4.5	STREET DETAILS (3 OF 3)
C5.0	OVERALL STORM
C5.1	INTERCEPTOR CHANNEL A PLAN & PROFILE (1 OF 2)
C5.2	INTERCEPTOR CHANNEL A PLAN & PROFILE (2 OF 2)
C5.3	STORM DRAIN A & B PLAN & PROFILE
C5.4	CHANNEL C PLAN & PROFILE
C5.5	CHANNEL D PLAN & PROFILE
C5.6	CHANNEL B PLAN & PROFILE
C5.7	DETENTION BASIN PLAN & DETAILS
C5.8	DETENTION BASIN DETAILS
C5.9	STORM DETAILS (1 OF 2)
C5.10	STORM DETAILS (2 OF 2)
C6.0	OVERALL WATER PLAN
C6.1	WATER DETAILS (1 OF 2)
C6.2	WATER DETAILS (2 OF 2)
C7.0	OVERALL WASTEWATER PLAN
C7.1	WASTEWATER LINE B PLAN & PROFILE (1 OF 2)
C7.2	WASTEWATER LINE B PLAN & PROFILE (2 OF 2)
C7.3	WASTEWATER LINE C & D & A–KFW PLAN & PROFILE
C7.4	WASTEWATER DETAILS

GENERAL NOTES:

1. IF CONSTRUCTION HAS NOT COMMENCED WITHIN ONE–YEAR OF COUNTY APPROVAL FOR CONSTRUCTION INSPECTION, THAT APPROVAL IS NO LONGER VALID.
2. THE MOST CURRENT EDITIONS OF THE GUADALUPE COUNTY STANDARD SPECIFICATIONS AND THE TEXAS DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS AND BRIDGES SHALL BE FOLLOWED FOR ALL CONSTRUCTION EXCEPT AS AMENDED BY GUADALUPE COUNTY STANDARD DETAILS.
3. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, GUADALUPE COUNTY MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER IN RECORD.
4. PRIOR TO THE START OF CONSTRUCTION THE CONTRACTOR SHALL CONTACT GUADALUPE COUNTY TO SET A PRE–CONSTRUCTION MEETING. A 48–HOUR ADVANCED NOTIFICATION IS REQUIRED FOR ALL INSPECTION AND MEETING REQUESTS.

   4.1 ALL INSPECTIONS ARE TO BE CALLED IN AT 830–372–1031 OR,
   4.2 FAXED IN AT 830–372–0067 OR,
   4.3 E–MAILED AT VEPOLLC.COM.

5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO SEE THAT ALL TEMPORARY AND PERMANENT TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE PLANS AND LATEST EDITION OF THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. IF THE NEED ARISES, ADDITIONAL TEMPORARY TRAFFIC CONTROL DEVICES MAY BE ORDERED BY THE ENGINEERING REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
6. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
7. THIS DEVELOPMENT IS A TYPE 3 DEVELOPMENT.
8. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE COMAL COUNTY, TEXAS, FIRM PANEL NUMBER 48187C0130F EFFECTIVE DATE NOVEMBER, 02, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
9. THIS PROJECT IS NOT LOCATED WITHIN THE EDWARDS AQUIFER RECHARGE, TRANSITION OR CONTRIBUTING ZONE.
10. GAS UTILITIES ARE NOT INCLUDED IN THE CIVIL CONSTRUCTION PLANS. FINAL GAS UTILITY DESIGN SHALL BE APPROVED BY THE COUNTY FOR ANY WORK WITHIN PUBLIC RIGHT–OF–WAY, IF APPLICABLE.
11. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER AND WASTEWATER IMPROVEMENTS MUST COMPLY WITH TCEQ, CITY OF SEGUIN, CRYSTAL CLEAR SUD WATER CONNECTION POLICY, SOUND ENGINEERING JUDGEMENT AND ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES.

NOTE TO CONTRACTOR:

BY THE ACT OF SUBMITTING A BID FOR THIS PROPOSED CONTRACT, THE BIDDER WARRANTS THAT THE BIDDER, AND ALL SUBCONTRACTORS AND MATERIAL SUPPLIERS HE INTENDS TO USE HAVE CAREFULLY AND THOROUGHLY REVIEWED THE DRAWINGS, SPECIFICATIONS AND ALL OTHER CONTRACT DOCUMENTS AND HAVE FOUND THEM COMPLETE AND FREE FROM ANY AMBIGUITIES AND SUFFICIENT FOR THE PURPOSE INTENDED. THE BIDDER FURTHER WARRANTS THAT TO THE BEST OF HIS OR HIS SUBCONTRACTORS' AND MATERIAL SUPPLIERS' KNOWLEDGE, ALL MATERIALS AND PRODUCTS SPECIFIED OR INDICATED HEREIN ARE ACCEPTABLE FOR ALL APPLICABLE CODES AND AUTHORITIES.

THE LOCATION OF ALL EXISTING UTILITIES SHOWN ON THESE PLANS HAS BEEN BASED UPON RECORD INFORMATION ONLY AND MAY NOT MATCH LOCATIONS AND/OR DEPTHS AS CONSTRUCTED. THE CONTRACTOR SHALL CONTACT EACH OF THE INDIVIDUAL UTILITIES FOR ASSISTANCE IN DETERMINING EXISTING UTILITY LOCATIONS AND DEPTHS PRIOR TO BEGINNING ANY CONSTRUCTION. CONTRACTOR SHALL FIELD VERIFY LOCATIONS OF ALL UTILITY CROSSINGS PRIOR TO BEGINNING ANY CONSTRUCTION.

ADDITIONAL NOTE TO CONTRACTOR:

1. ALL RESPONSIBILITY FOR THE ADEQUACY OF THESE PLANS REMAINS WITH THE ENGINEER OF RECORD. IN ACCEPTING THESE PLANS, NEW BRAUNFELS UTILITIES MUST RELY UPON THE ADEQUACY OF THE WORK OF THE ENGINEER OF RECORD.
2. THE ENGINEER OF RECORD ACKNOWLEDGES THAT ALL PROPOSED WATER OR WASTEWATER IMPROVEMENTS MUST COMPLY WITH CRITERIA FROM THE TEXAS COMMISSION ON ENVIRONMENTAL QUALITY, THE CITY OF SEGUIN WW DESIGN CRITERIA, ANY OTHER GOVERNING ENTITY ORDINANCES OR CODES, AND SOUND ENGINEERING JUDGEMENT.
3. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR THE CRYSTAL CLEAR WATER SUD SYSTEM IS THE MAIN SIDE OF THE SERVICE/LATERAL/LEAD FROM THE CUSTOMER'S METER, BACKFLOW PREVENTER, OR EASEMENT EDGE. THE CUSTOMER IS RESPONSIBLE FRO THE DESIGN, PERMITTING, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER THE INSTALLATION.
4. THE ENGINEER OF RECORD ACKNOWLEDGES THAT THE POINT OF DELIVERY FOR A CITY OF SEGUIN WASTEWATER SYSTEM IS THE MAIN SIDE OF THE SERVICE LATERAL FROM THE CUSTOMER'S CLEAN OUT OR PROPERTY LINE, WHICHEVER IS NEARER. THE CUSTOMER IS RESPONSIBLE FOR THE DESIGN, CONSTRUCTION, OPERATION AND MAINTENANCE BEYOND THE POINT OF DELIVERY AND HAS SOLE CONTROL AND SUPERVISION OVER ITS INSTALLATION.
5. WATER IS A PRECIOUS COMMODITY IN THE STATE OF TEXAS AND CRYSTAL CLEAR SUD (CCSUD) IS PASSIONATE ABOUT PROTECTING THE LOCAL RESOURCE. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ACQUIRING A FIRE HYDRANT METER SO THAT ALL WATER USED FOR CONSTRUCTION OR TESTING PURPOSES IS PROPERLY ACCOUNTED FOR. CCSUD WILL NOT TOLERATE ANY WATER THEFT, REGARDLESS OF THE AMOUNT. IF WATER THEFT IS DISCOVERED, THE CONTRACTOR SHALL BE SUBJECT TO MONETARY PENALTIES, CRIMINAL CHARGES, AND STOPPAGE OF ALL CONSTRUCTION ACTIVITIES RELATED TO THE PROJECT. COSTS ASSOCIATED WITH ANY WORK STOPPAGE RESULTING FROM WATER THEFT SHALL BE AT THE FULL EXPENSE OF THE CONTRACTOR.

NAVARRO SUBDIVISION UNIT 9
CIVIL SITE CONSTRUCTION PLANS
HMT # 337.116

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\CDs\337.116_COVER.dwg User: chrisloric Nov 20, 2025 - 12:01pm

GENERAL NOTES

ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL COMPLY WITH:

A. CURRENT CITY OF SEGUIN CONSTRUCTION SPECIFICATIONS AND STANDARDS AS OF THE DATE OF THIS CONTRACT

B. THE MOST CURRENT EDITION OF TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES".

ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE MOST CURRENT TEXAS DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREETS, AND BRIDGES." ALONG WITH CURRENT CITY OF SEGUIN AND GUADALUPE COUNTY SPECIFICATIONS. ANY DISCREPANCIES BETWEEN SPECIFICATIONS SHALL BE RESOLVED BY THE ENGINEER PRIOR TO PROCEEDING WITH CONSTRUCTION.

CONTRACTOR SHALL PROCURE ALL PERMITS AND LICENSES, PAY ALL CHARGES, FEES, AND TAXES AREA AND GIVE ALL NOTICES NECESSARY AND INCIDENTAL TO THE DUE AND LAWFUL PROSECUTION OF THE WORK.

ANY EXISTING OFF-SITE IMPROVEMENTS THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE OWNER OF THE EXISTING IMPROVEMENT AT THE CONTRACTOR'S EXPENSE. (NO SEPARATE PAY ITEM)

WORK COMPLETED BY THE CONTRACTOR WHICH HAS NOT RECEIVED A WORK ORDER OR CONSENT OF THE OWNER OR ENGINEER WILL BE SUBJECT TO REMOVAL AND REPLACEMENT BY AND AT THE EXPENSE OF THE CONTRACTOR.

CONTRACTOR IS RESPONSIBLE FOR REMOVAL OF ALL WASTE MATERIALS UPON PROJECT COMPLETION. THE CONTRACTOR SHALL NOT PLACE ANY WASTE MATERIAL IN THE 100YR FLOOD PLAIN WITHOUT FIRST OBTAINING AN APPROVED FLOOD PLAIN DEVELOPMENT PERMIT.

BARRICADES AND WARNING SIGNS SHALL CONFORM TO THE "TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SHALL BE LOCATED TO PROVIDE MAXIMUM PROTECTION TO THE PUBLIC AS WELL AS CONSTRUCTION PERSONNEL AND EQUIPMENT WHILE PROVIDING CONTINUOUS TRAFFIC FLOW AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL DEVICES DURING CONSTRUCTION.

CONTRACTOR IS REQUIRED TO VERIFY PROJECT ELEVATIONS. THE TERM "MATCH EXISTING" SHALL BE UNDERSTOOD TO SIGNIFY BOTH HORIZONTAL AND VERTICAL ALIGNMENT.

WHEN MATCHING EXISTING PAVEMENTS, CURBS, DRIVES, AND WALKS, THEY SHALL BE SAW CUT FULL DEPTH AND REMOVED TO ALLOW FOR PROPOSED CONSTRUCTION. IF ANY EXISTING JOINT IS ENCOUNTERED, PRECAUTION SHALL BE TAKEN DURING REMOVAL OF CONCRETE SO AS NOT TO DAMAGE EXISTING DOWELS. ALL EXISTING DOWELS SHALL BE EXPOSED AND CLEANED.

ITEM OF WORK DESIGNATED "BY OTHERS" SHALL NOT BE CONSIDERED PART OF THIS CONTRACT.

ALL "COMPACTED SUBGRADE" SHALL CONSIST OF NATIVE MATERIAL SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES AND COMPACTED TO 95% DENSITY ACCORDING TO DENSITY TEST METHOD TEX-115E OR ACCORDING TO ASTM D-698 AND TESTED BY ASTM D-2922.

ALL "FLEXIBLE BASE" SHALL BE TYPE "A", GRADE 4, ACCORDING TO TXDOT ITEM 247, COMPACTED TO 95% MODIFIED DENSITY AT A MOISTURE CONTENT BETWEEN -2 AND +3 OF OPTIMUM PERCENT MOISTURE ACCORDING TO ASTM D-1557 (MODIFIED PROCTOR) AND TESTED BY ASTM D-2922.

ASPHALT PAVEMENT SHALL BE THE TYPE SPECIFIED ON THE PLANS AND ACCORDING TO TXDOT ITEM 340 "HOT MIX ASPHALT CONCRETE PAVEMENT".

PRIME COAT USING MC-30 AT A RATE OF 0.2 GALLONS PER SQUARE YARD SHALL BE PLACED OVER PREPARED BASE AT LEAST ONE DAY PRIOR TO LAYING ASPHALTIC CONCRETE PAVEMENT. ANY NECESSARY TACK COAT SHALL BE MC-30 AT 0.05 GALLONS PER SQUARE YARD. IT IS REQUIRED THAT BOTH THE PRIME COAT AND THE TACK COAT BE APPLIED AT THE TEMPERATURE SPECIFIED UNDER TXDOT ITEM 300.3.

CONCRETE SHALL BE CLASS "A" ACCORDING TO TXDOT ITEM 421 UNLESS OTHERWISE ON PLANS.

REINFORCING STEEL SHALL BE FROM NEW BILLET AND SHALL CONFORM TO TXDOT ITEM 440. ALL DIMENSIONS RELATING TO REINFORCING STEEL ARE TO CENTER OF BARS EXCEPT WHEN REFERRING TO CLEARANCE.

ALL SAWED JOINTS SHALL BE SAWED WITHIN 24 HOURS OF POURING,

ABSOLUTELY NO WELDING OF REINFORCING BARS OR TORCHING TO BEND REINFORCING BARS SHALL BE ALLOWED WITHOUT THE SPECIFIC APPROVAL OF THE ENGINEER.

ORDINARY COMPACTION CONTROL IS REQUIRED ON THIS PROJECT.

ALL ROLLING FOR COMPACTION OF ASPHALTIC CONCRETE PAVEMENT SHALL BE COMPLETED BEFORE THE MIXTURE TEMPERATURE DROPS BELOW 175 DEG. (F).

ALL FILL MATERIAL SHALL BE SUBJECT TO THE ENGINEER'S APPROVAL.

CONTRACTOR AGREES TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO THE NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNERS AND THE ENGINEER AND HIS EMPLOYEES, PARTNERS, OFFICES, DIRECTORS, OR CONSULTANTS, HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF THE WORK ON THIS PROJECT, EXCEPTING FROM LIABILITY ARISING FROM SOLE NEGLIGENCE OF THE OWNER OR ENGINEER, ENGINEER'S DIRECTORS, OFFICERS, EMPLOYEES, OR CONSULTANTS.

ALL CMP (CORRUGATED METAL PIPE) USED ON THIS PROJECT SHALL HAVE A MANNING'S "N" VALUE OF 0.024., UNLESS OTHERWISE SHOWN ON PLANS.

CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTING PER CURRENT CITY OF SEGUIN REQUIREMENTS. ALL TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. ENGINEER AND OWNER RESERVE THE RIGHT TO HAVE THE CONTRACTOR REMOVE AND REPLACE ANY MATERIAL THAT WAS NOT TESTED OR FAILED TESTING. ALL COST ASSOCIATED WITH THE REMOVAL, REPLACEMENT AND TESTING SHALL BE PAID BY THE CONTRACTOR.

ALL PVC SLEEVES SHALL BE INSTALLED 3 FEET BELOW FINISHED GRADE AND ENDS SHALL BE MARKED SO THAT LOCATIONS OF SLEEVES CAN BE EASILY IDENTIFIED.

PRE-CONSTRUCTION CONFERENCE IS REQUIRED, ENGINEER WILL ARRANGE SUCH CONFERENCE IN COORDINATION WITH CITY OF SEGUIN PROJECT MANAGER AND INSPECTOR. NO CONSTRUCTION MAY BEGIN PRIOR TO THE PRE-CONSTRUCTION CONFERENCE.

CONTRACTOR SHALL COORDINATE WITH DRY UTILITY INSTALLERS AND SHARED TRENCHING SHALL BE UTILIZED. CUTTING THE STREETS AFTER COMPLETION BY DRY UTILITIES SHALL NOT BE ACCEPTABLE.

WHEN ALL IMPROVEMENTS ARE FOUND TO BE CONSTRUCTED AND COMPLETED IN ACCORDANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND WITH THE CITY'S STANDARDS, AND UPON RECEIPT OF ONE SET OF "RECORD DRAWINGS" PLANS, AND A DIGITAL COPY OF ALL PLANS (AUTOCAD 2000 MINIMUM) THE CITY ENGINEER SHALL ACCEPT SUCH IMPROVEMENTS FOR THE CITY OF SEGUIN, SUBJECT TO THE GUARANTY OF MATERIAL AND WORKMANSHIP PROVISIONS IN THIS SECTION.

EROSION / SEDIMENTATION CONTROL

AT A MINIMUM, THESE CONTROLS SHALL CONSIST OF ROCK BERMS AND/OR SILT FENCES CONSTRUCTED PARALLEL TO AND DOWN GRADIENT FROM THE TRENCHES. THE ROCK BERM OR SILT FENCES SHALL BE INSTALLED IN A MANNER SUCH THAT ANY RAINFALL RUNOFF SHALL BE FILTERED. HAY BALES SHALL NOT BE USED FOR TEMPORARY EROSION AND SEDIMENTATION CONTROLS.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION AND SHALL BE MAINTAINED DURING CONSTRUCTION BY THE CONTRACTOR. THE CONTRACTOR SHALL REMOVE THE CONTROLS WHEN VEGETATION IS ESTABLISHED AND THE CONSTRUCTION AREA IS STABILIZED {31 TAC 313.5 (C)(12)}. ADDITIONAL PROTECTION MAY BE REQUIRED IF EXCESSIVE SOLIDS ARE BEING DISCHARGED FROM THE SITE.

ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY THE OWNER/ENGINEER.

PLACEMENT OF TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE IN ACCORDANCE WITH THE CONSTRUCTION PLANS. ACTUAL LOCATIONS MAY VARY SLIGHTLY FROM THE PLANS, BUT WILL BE VERIFIED BY THE ENGINEER/INSPECTOR IN THE FIELD PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL INSPECT THE CONTROLS AT WEEKLY INTERVALS AND AFTER EVERY SIGNIFICANT RAINFALL TO INSURE DISTURBANCE OF THE STRUCTURES HAS NOT OCCURRED. SEDIMENT DEPOSITED AFTER A RAINFALL SHALL BE REMOVED FROM THE SITE OR PLACED IN AN ENGINEER APPROVED DESIGNATED DISPOSAL AREA.

CONTRACTOR SHALL BE RESPONSIBLE TO INSURE THAT NO EROSION CONTROL MEASURES BLOCK THE DRAINAGE SYSTEM FROM WORKING AS DESIGNED.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.
ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

CRYSTAL CLEAR SUD (WATER)	(830) 372-1031
CITY OF SEGUIN (SEWER)	(830) 401-2222
GUADALUPE VALLEY ELECTRIC COMPANY (ELECTRIC)	(830) 857-1200
TIME WARNER CABLE SPECTRUM	(830) 625-3408
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192(8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

CONTRACTOR SHALL REFERENCE GVEC UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

WASTEWATER NOTES

REVISION DATE: 3/31/11

1. THE CONTRACTOR SHALL MAINTAIN SERVICE TO EXISTING WASTEWATER SYSTEM AT ALL TIMES DURING CONSTRUCTION.
2. A MINIMUM OF 8" WASTEWATER PIPE AND FITTING (P.V.C. SDR-26, ASTM, D-3034, D-3212, F-477) ARE REQUIRED ON NEW INSTALLATION.
3. ALL RESIDENTIAL WASTEWATER SERVICE LATERALS SHALL BE EXTENDED TO THE PROPERTY LINE AND A CLEANOUT SHALL BE INSTALLED AT THE PROPERTY LINE. SERVICES TO LOTS WILL EXTEND FOUR (4) FEET PAST THE UNDERGROUND ELECTRIC CONDUIT IF ELECTRIC IS INSTALLED IN THE FRONT EASEMENT.
4. PIPE BEDDING OF WASTEWATER LINES SHALL MEET CITY OF SEGUIN REQUIREMENTS IN ACCORDANCE WITH DETAIL WW-8.
5. SECONDARY BACKFILL OF WASTEWATER LINES SHALL GENERALLY CONSIST OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE FROM BRUSH, DEBRIS AND TRASH, NO ROCKS OR STONES HAVING ANY DIMENSION LARGER THAN 6 INCHES AT THE LARGEST DIMENSION.
6. ALL WASTEWATER PIPES SHALL HAVE COMPRESSION OR MECHANICAL JOINTS AS PER 30 TAC §217.53 (C) (2).
7. FOR WASTEWATER LINES LESS THAN 24" IN DIAMETER, SELECT INITIAL BACKFILL MATERIAL SHALL BE PLACED IN TWO LIFTS.
   7.1. THE FIRST LIFT SHALL BE SPREAD UNIFORMLY AND SIMULTANEOUSLY ON EACH SIDE AND UNDER THE SHOULDERS OF THE PIPE TO THE MID POINT OR SPRING LINE OF THE PIPE.
   7.2. 8.2. THE SECOND LIFT SHALL BE PLACED TO A DEPTH AS SHOWN ON THE PIPE BACKFILL DETAIL. FOR PIPES LARGER THAN 24", 12" MAXIMUM LIFTS SHALL BE USED.
8. ALL MANHOLES MUST BE WATER TIGHT, EITHER MONOLITHIC, CAST-IN-PLACE CONRETE STRUCTURES OR PREFABRICATED MANHOLES SPECIFICALLY APPROVED BY CITY OF SEGUIN. THE MANHOLES SHALL HAVE WATER-TIGHT RINGS AND COVERS. WHEREEVER THEY ARE WITHIN THE 100 YEAR FLOODPLAIN, THE MANHOLE COVERS SHALL BE BOLTED. EVERY THIRD MANHOLE IN SEQUENCE SHALL HAVE AN ALTERNATE MEANS OF VENTING. 30 TAC §213.5 (C)(3)(A) AND 30 TAC §217.55 (O).
9. ALL MANHOLES SHALL BE CONSTRUCTED SO THAT THE TOP OF THE RING IS TWO INCHES (2") ABOVE SURROUNDING GROUND EXCEPT WHEN LOCATED IN PAVED AREA. IN PAVED ARES, THE MANHOLE RING SHALL BE FLUSH WITH PAVEMENT.
10. ALL NEW MANHOLES, UNLESS APPROVED BY CITY ENGINEERING, ARE TO HAVE COVERS WITH 32"OPENINGS.
11. WASTEWATER PIPE CONNECTIONS TO PRE-CAST MANHOLES WILL BE COMPRESSION JOINTS OR MECHANICAL "BOOT TYPE" JOINT AS APPROVED BY CITY OF SEGUIN.
12. WASTEWATER LINES SHALL BE TESTED FROM MANHOLE TO MANHOLE.
13. IN AREAS WHERE A NEW WASTEWATER MANHOLE IS TO BE CONSTRUCTED OVER AN EXISTING WASTEWATER SYSTEM, IT SHALL BE THE CONTACTOR'S RESPONSIBILITY TO TEST THE EXISTING MANHOLES BEFORE CONSTRUCTION. AFTER THE PROPOSED MANHOLE(S) HAS BEEN BUILT, THE CONTRACTOR SHALL RE-TEST THE EXISTING SYSTEM TO THE SATISFACTION OF THE CONSTRUCTION INSPECTOR. (NO SEPARATE PAY ITEM).
14. WHERE THE MINIMUM 9 FOOT SEPARATION DISTANCE BETWEEN WASTEWATER LINES AND WATER LINES / MAINS CANNOT BE MAINTAINED, THE INSTALLATION OF WASTEWATER LINES SHALL BE IN STRICT ACCORDANCE WITH TCEQ. THE WASTEWATER LINE SHALL BE CONSTRUCTED OF CAST IRON, DUCTILE IRON OR PVC MEETING THE ASTM SPECIFICATION FOR BOTH PIPES AND JOINTS OF 150 PSI AND SHALL BE IN ACCORDANCE WITH 30 TAC §217.53 (D) (3) (A) (I).
15. NO TESTING WILL BE PERFORMED PRIOR TO 30 DAYS FROM COMPLETE INSTALLATION OF THE WASTEWATER LINES. THE FOLLOWING SEQUENCE WILL BE STRICTLY ADHERED TO:
   15.1. PULL MANDREL
   15.2. PERFORM AIR TEST
   15.3. CLEANING OF ANY DEBRIS
   15.4. FLUSHING OF SYSTEM
   15.5. TV INSPECTION (WITHIN 72 HOURS OF FLUSHING)
16. A MINIMUM OF 5 FEET OF COVER IS TO BE MAINTAINED OVER THE WASTEWATER MAIN AND LATERALS AT SUBGRADE.
17. WASTEWATER MAIN CONNECTIONS MADE DIRECTLY TO EXISTING MANHOLES WILL REQUIRE SUCCESSFUL TESTING OF THE MANHOLE IN ACCORDANCE WITH CITY OF SEGUIN CONSTRUCTION POLICY MANUAL.
18. TCEQ AND EPA REQUIRE EROSION AND SEDIMENTATION CONTROL FOR CONSTRUCTION OF WASTEWATER COLLECTION SYSTEMS. DEVELOPER OR AUTHORIZED REPRESENTATIVE SHALL PROVIDE EROSION AND SEDIMENTATION CONTROL AS NOTES ON THE PROJECT'S PLAN AND PROFILE SHEETS. ALL TEMPORARY EROSION AND SEDIMENTATION CONTROLS SHALL BE REMOVED BY THE CONTRACTOR AT FINAL ACCEPTANCE OF THE PROJECT BY CITY OF SEGUIN.

WATER NOTES

REVISED 01/2025

CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD) WATER MAIN NOTES

1. CONSTRUCTION OF ALL CCSUD WATER UTILITY INFRASTRUCTURE MUST ADHERE TO CCSUD'S TECHNICAL SPECIFICATIONS, DETAILS AND APPROVED EQUIPMENT LIST.
2. REMOVE ONLY VEGETATION, TREES, STUMPS, RUBBISH, AND OTHER MATERIAL NECESSARY FOR CONSTRUCTION AND DISPOSE OF OFF SITE.
3. THE CONNECTION LOCATIONS LISTED IN THE PLANS ARE BASED ON BEST AVAILABLE INFORMATION. THE CONTRACTOR SHALL FIELD LOCATE EXISTING WATER MAIN LOCATIONS AT ALL TIE-IN LOCATIONS TO VERIFY SIZE, ELEVATION, AND MATERIAL PRIOR TO ORDERING MATERIALS FOR CONNECTION.
4. THE CONTRACTOR SHALL MAINTAIN MINIMUM SEPARATION BETWEEN UTILITIES PER TCEQ STANDARDS.
5. UNLESS OTHERWISE SPECIFIED, ALL PVC WATER MAINS SHALL BE C900 DR 18, COLORED BLUE IN ACCORDANCE WITH SPECIFICATION SECTION 02650 -PVC PIPE FOR WATER MAINS.
6. ALL DUCTILE IRON WATER MAINS SHALL BE PRESSURE CLASS CONFORMING TO AWWA C151 AND CEMENT LINED.
7. WATER MAINS SHALL BE RESTRAINED WITH RESTRAINT LENGTHS OF FITTINGS SHOWN IN PLANS.THRUST BLOCKING IS REQUIRED AT ALL FITTINGS AND BENDS IN ACCORDANCE WITH THE THRUST BLOCKING DETAIL PROVIDED AND SPECIFICATION SECTION 02680 - JOINT RESTRAINTS AND THRUST BLOCKING.
8. LOCATIONS OF COMBINATION AIR VALVES SHOWN ARE APPROXIMATE. INSTALL AIR RELEASE VALVES AT THE HIGH POINT IN THE WATER MAIN FOR THE LOCATIONS GIVEN.
9. THE CONTRACTOR SHALL COORDINATE PRESSURE TESTING OF NEW WATER MAINS WITH OWNER AND ENGINEER AT LEAST TWO BUSINESS DAYS PRIOR. PRESSURE TESTING REQUIREMENTS ARE INCLUDED IN THE SPECIFICATIONS.
10. ALL WATER MAINS SHALL BE DISINFECTED PER AWWA AND TCEQ STANDARDS.
11. THE OWNER SHALL SUPPLY ALL WATER NEEDED FOR CONSTRUCTION TESTING AND DISINFECTION. THE CONTRACTOR SHALL NOT BE REQUIRED TO PAY FOR THIS WATER.
12. UNLESS NOTED OTHERWISE, ALL WATER MAIN P.I.'S SHALL BE ACHIEVED USING THE WATER MAIN MANUFACTURER'S ALLOWABLE JOINT DEFLECTION.
13. WATER MAINS, FIRE HYDRANTS, APPURTENANCES, AND VALVES THAT ARE ABANDONED SHALL BE CUT AND PLUGGED PER SPECIFICATION SECTION 02500 -ABANDONMENT OF WATER INFRASTRUCTURE.
14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MEETING 98% COMPACTION ON ALL TRENCH BACKFILL AND PAYING FOR THE TESTS TO BE PERFORMED BY A THIRD PARTY. COMPACTION TESTS WILL BE DONE AT ONE LOCATION POINT RANDOMLY SELECTED OR AS INDICATED BY CCSUD INSPECTOR/TEST ADMINISTRATOR, PER EACH 12-INCH LOOSE LIFT 400 LINEAR FEET AT A MINIMUM. PERMITS WILL NOT BE ACCEPTED AND FINALIZED BY CCSUD WITHOUT THIS REQUIREMENT BEING MET AND VERIFIED BY PROVIDING ALL NECESSARY DOCUMENTED TEST RESULTS.

CONSTRUCTION NOTES

GROUNDWATER

IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER, CONTRACTOR, SUBCONTRACTORS, BUILDERS, GEO-TECHNICAL ENGINEER, AND PROJECT ENGINEER TO IMMEDIATELY NOTIFY THE OFFICE OF THE CITY ENGINEER AND PROJECT ENGINEER IF THE PRESENCE OF GROUNDWATER WITHIN THE SITE IS EVIDENT. UPON NOTIFICATION THE PROJECT ENGINEER SHALL RESPOND WITH PLAN REVISIONS FOR THE MITIGATION OF THE GROUNDWATER ISSUE. THE CITY ENGINEER SHALL RESPOND WITHIN TWO (2) BUSINESS DAYS UPON RECEIPT OF THE MITIGATION PLAN. ALL CONSTRUCTION ACTIVITY, IMPACTED BY THE DISCOVERY OF GROUNDWATER, SHALL BE SUSPENDED UNTIL THE CITY ENGINEER GRANTS A WRITTEN APPROVAL OF THE GROUNDWATER MITIGATION PLAN.

DRAINAGE NOTE

DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE THE IMPACT OF CONSTRUCTION SHALL BE INSTALLED PRIOR TO INCREASING RUNOFF FROM THE SITE.

FINISHED FLOOR ELEVATIONS

THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

ROADWAY

ALL ROADWAY COMPACTION TESTS SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FLEXIBLE BASE OR FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED SIX-INCHES (6") COMPACTED. EACH LAYER OF MATERIAL, INCLUSIVE OF SUBGRADE, SHALL BE COMPACTED AS SPECIFIED AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL

BE DETERMINED BY THE GEO-TECHNICAL ENGINEER AND APPROVED BY THE CITY STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER WILL PROVIDE THE CITY OF SEGUIN STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FLEXIBLE BASE, AND FILL MATERIAL, AND SUBGRADE, HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

ITEM 340

ASPHALTIC CONCRETE PAVEMENT SHALL BE TYPE "D" HOT MIX ASPHALT AS DEFINED IN TXDOTS STANDARD SPECIFICATIONS FOR TXDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION OF HIGHWAYS, STREET AND BRIDGES, 2004 OR LATEST EDITION.

THE CITY OF SEGUIN WILL NOT ACCEPT THE USE OF RECYCLED ASPHALT PAVEMENT (RAP) OR RECYCLED ASPHALT SHINGLES (RAS) IN ASPHALT MIXTURES FOR NEW ROADWAYS. ANY DEBRIS INCLUSIONS WITHIN NEW ASPHALT PAVEMENTS WILL RESULT IN ASPHALT REMOVAL AND REPLACEMENT FROM CURB TO CURB FOR LIMITS TO BE DETERMINED BY THE CITY OF SEGUIN.

THE ASPHALTIC CONCRETE SURFACE COURSE SHALL BE PLANT MIXED, HOT LAID TYPE "D" MEETING THE SPECIFICATION REQUIREMENTS OF 2004 TXDOT ITEM 340. THE MIX SHALL BE DESIGNED FOR A STABILITY OF AT LEAST 35 AND SHALL BE COMPACTED TO BETWEEN 91 AND 95 PERCENT OF THE MAXIMUM THEORETICAL DENSITY AS DETERMINED BY TXDOT TEST METHOD TEX-227-F. THE ASPHALT CEMENT CONTENT BY PERCENT OF TOTAL MIXTURE WEIGHT SHALL FALL WITHIN A TOLERANCE OF +0.5 PERCENT FROM A SPECIFIC MIX DESIGN.

UTILITY TRENCH COMPACTION (ADDED TO THE CONSTRUCTION PLANS ON ALL UTILITY PLAN SHEETS).

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OFSEGUIN STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

CURB CUT DUE TO CONSTRUCTION OF NEW RIGHT-OF-WAY CONSTRUCTION

(INDICATE THE 2 OPTIONS ON THE CONSTRUCTION PLANS).

1. SAWCUT EXISTING STREET AND MATCH TO NEW CONSTRUCTION.
2. SAWCUT EXISTING CURB TO TIE INTO EXISTING CONSTRUCTION.

CONSTRUCTION STABILIZED ENTRANCE

SAWCUT CURB FOR CONSTRUCTION ENTRANCE.

STABILIZED CONSTRUCTION AREA SHALL BE CONSTRUCTED OF 3"X5"ROCK TO BE PLACED A MINIMUM LENGTH OF 25-FT. AND MAINTAINED SO THAT CONSTRUCTION DEBRIS DOES NOT FALL WITHIN THE CITY RIGHT-OF-WAY. RIGHT-OF-WAY MUST BE CLEARED FROM MUD, ROCKS, ETC. AT ALL TIMES.

(NOTES TO BE PLACED ON ALL WW PLAN & DETAIL SHEETS)

ENSURE ALL DRIVEWAY APPROACHES ARE BUILT IN GENERAL ACCORDANCE WITH A.D.A. SPECIFICATIONS.

NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.

SIGNING AND PAVEMENT MARKING PLAN NOTES

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY AND WARNING SIGNS, STREETS NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE COUNTY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

THE CONTRACTOR SHALL INSTALL ALL PAVEMENT MARKINGS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS. THE CONTRACTOR SHALL NOTIFY THE COUNTY AT LEAST TWENTY-FOUR (24) HOURS PRIOR TO THE INSTALLATION OF ALL SEALER AND FINAL MARKINGS. THE COUNTY WILL INSPECT ALL MARKINGS AT FINAL APPLICATION.

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (TWT) - 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS SMD (GEN) - 08 AND SMD (SLIP-1-3)- 08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE

TXDOT TRAFFIC STANDARDS D & OM (1 - 5) - 10.

MATERIALS

SIGN MATERIALS INCLUDING ALUMINUM SIGN BLANKS AND SIGN FACE MATERIALS SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS TSR (1 - 5) - 08 AND DEPARTMENTAL MATERIAL SPECIFICATIONS DMS-7110 AND DMS-8300.

THE COUNTY WILL INSPECT ALL SIGNS AT FINAL INSPECTION.

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.
10. TPDES REQUIREMENTS - DISTURBED AREAS ON WITCH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY WILL BEGIN AGAIN WITHIN 21 DAYS

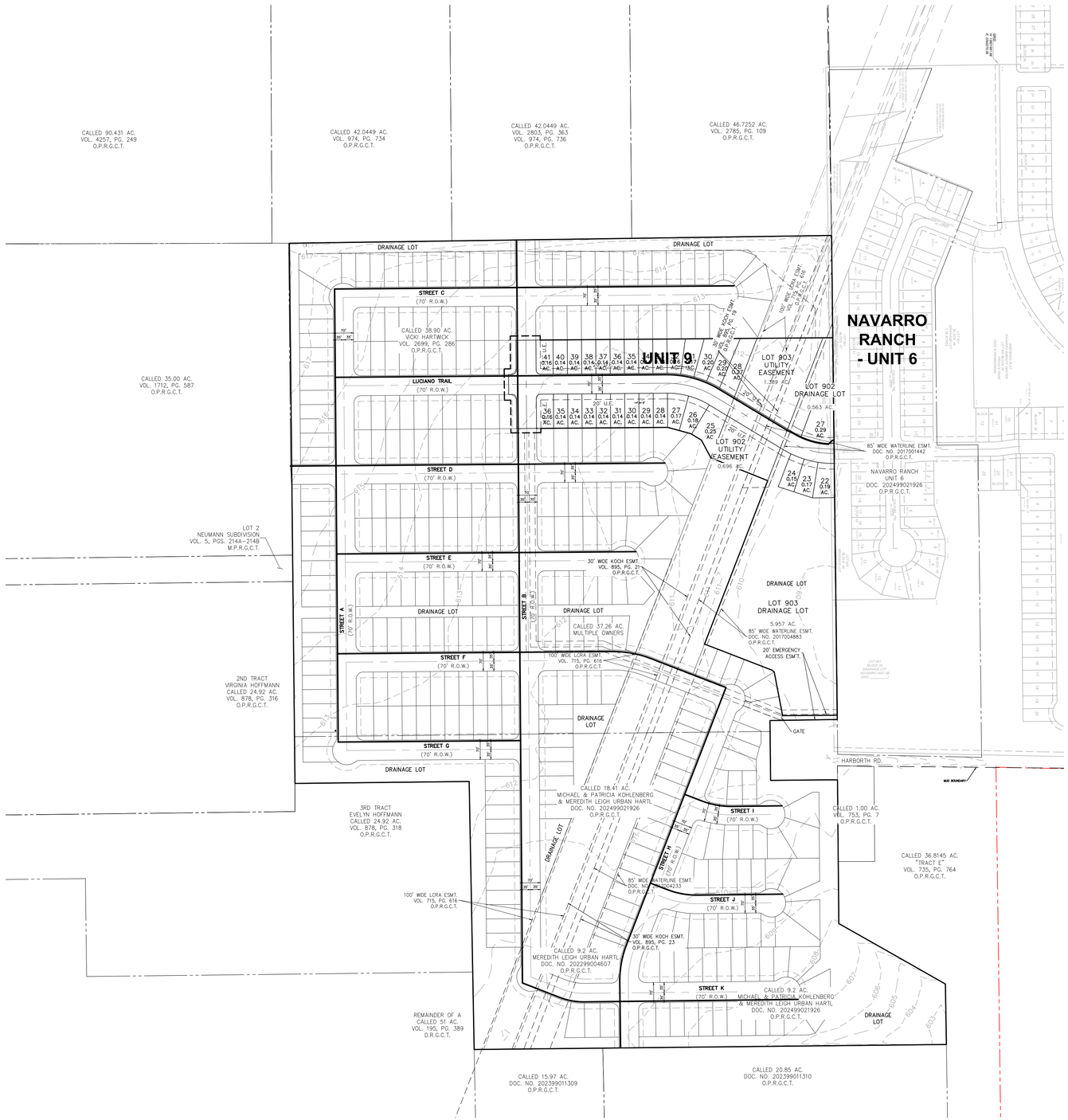
MUNICIPAL UTILITY DISTRICT (M.U.D.) NOTES

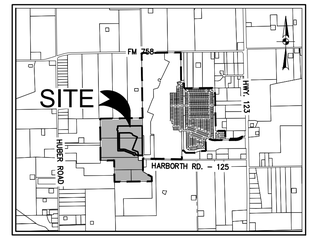
THE DISTRICT ENGINEER, JONES-HEROY & ASSOCIATES, INC. (PH: 512/989-2200) SHALL BE CONTACTED BY THE CONTRACTOR 48 HOURS PRIOR TO:

I. PRE-CONSTRUCTION MEETINGS;
II. BEGINNING EACH PHASE OF CONSTRUCTION;
III. TAPPING OR CONNECTING

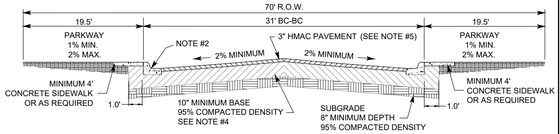
NOTES:

1. ALL LOTS WITHIN THE SUBDIVISION WILL BE PROVIDED WATER BY CRYSTAL CLEAR, SEWER BY CITY OF SEGUIN, AND ELECTRIC SERVICE BY GVEC. TELEPHONE AND CABLE SERVICES FOR THE SUBDIVISION WILL BE PROVIDED BY AT&T COMMUNICATIONS AND/OR SPECTRUM.
2. THIS SUBDIVISION IS NOT WITHIN THE EDWARDS AQUIFER RECHARGE ZONE.
3. THIS SUBDIVISION IS NOT WITHIN THE CITY LIMITS OF SEGUIN, TEXAS.
4. THIS SUBDIVISION IS WITHIN THE NAVARRO INDEPENDENT SCHOOL DISTRICT.
5. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN THE EXISTING SPECIAL FLOOD HAZARD AREA, ZONE AE, 100-YEAR FLOODPLAIN BOUNDARY, AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187C0130F, EFFECTIVE DATE NOVEMBER 2, 2007, AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
6. THE ELEVATION OF THE LOWEST FLOOR OF A STRUCUTURE SHALL BE AT LEAST TEN (10) INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE A FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE AND SHALL PREVENT WATER FROM LEAVING THE STREET.
7. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF NEW BRAUNFELS SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
10. DEVELOPMENT IS SUBJECT TO THE CITY OF SEGUIN'S PARKLAND DEDICATION ORDINANCE. THIS IS A 100% FEE IN-LIEU-OF PARKLAND DEDICATION AND DEVELOPMENT SUBDIVISION. FEES WILL BE PAID IN ACCORDANCE WITH THE UDC.
11. 4' WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ALONGSIDE AND ADJACENT TO THE CURB BY THE OWNER AT THE TIME OF DEVELOPMENT ALONG ALL INTERNAL STREETS. 6' WIDE SIDEWALKS WILL BE CONSTRUCTED PER CITY STANDARDS ALONGSIDE AND ADJACENT TO THE PROPERTY LINE BY THE DEVELOPER AT THE TIME OF STREET CONSTRUCTION.
12. LAND USE FOR THIS SUBDIVISION IS SINGLE-FAMILY RESIDENTIAL.
13. PERMANENT WATER QUALITY CONTROLS ARE REQUIRED FOR THIS SUBDIVISION MASTER PLAN IN ACCORDANCE WITH THE CITY OF SEGUIN DRAINAGE AND EROSION CONTROL DESIGN MANUAL.
14. THE MAINTENANCE OF ALL PUBLIC STREETS, OPEN SPACE, GREENBELTS, PARKS, TREE SAVE AREAS, DRAINAGE EASEMENTS, AND EASEMENTS OF ANY OTHER NATURE WITHIN THE SUBDIVISION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNERS, OR THE PROPERTY OWNER'S ASSOCIATION OR SPECIAL DISTRICT, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF GUADALUPE COUNTY.
15. SIGHT DISTANCE EASEMENTS SHALL BE FREE OF OBSTRUCTIONS THAT COULD IMPAIR DRIVER VISIBILITY. NO FENCING SHALL BE LOCATED WITHIN SIGHT DISTANCE EASEMENTS.

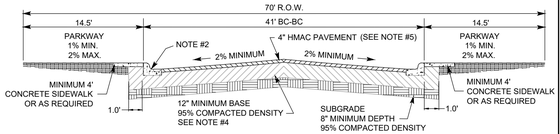




LOCATION MAP
NOT TO SCALE



LOCAL STREET PAVEMENT SECTION (70' R-O-W)
NOT TO SCALE



COLLECTOR STREET PAVEMENT SECTION (70' R-O-W)
NOT TO SCALE

NAVARRO RANCH WEST LOT SUMMARY

	ACREAGE	# OF RESIDENTIAL LOTS	50' X 120	DRAIN LOTS/ OPEN SPACE
UNIT 9	36.387	30	30	4
OTHER UNITS	75.459	334	334	8
	--	--	--	--
	--	--	--	--
TOTAL	111.846	364	364	12

LOT DENSITY = 3.25 UNITS PER ACRE (RESIDENTIAL)

OWNER:

DEVLOPER:
LENNAR HOMES
RICHARD MOTT
100 NE LOOP 410, SUITE 1155
SAN ANTONIO, TX 78216

ENGINEER/SURVEYOR:
HMT ENGINEERING AND SURVEYING
290 S. CASTELL AVE., SUITE 100
NEW BRAUNFELS, TX 78130
PH: (830) 625-8555

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

MASTER PLAN

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C0.2

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cbk\337.116_OVERALL MASTER.dwg User: christianc Nov 20, 2025 - 12:01pm

PLAT NOTES:

1. THIS PROPERTY WILL BE SERVED BY THE FOLLOWING:
   ELECTRIC – GUADALUPE VALLEY ELECTRIC COOPERATIVE
   TELEPHONE – AT&T/SPECTRUM
   WATER – CRYSTAL CLEAR SUD
   SEWER – CITY OF SEGUIN UTILITIES
2. ALL BEARINGS AND COORDINATES SHOWN HEREON ARE BASED UPON THE TEXAS COORDINATE SYSTEM, SOUTH CENTRAL ZONE (4204), NORTH AMERICAN DATUM 1983, GRID. DISTANCES SHOWN HEREON ARE BASED UPON SURFACE MEASUREMENTS. TO CONVERT SURFACE DISTANCES TO GRID, APPLY A COMBINED SCALE FACTOR OF 1.00015.
3. MONUMENTS WERE FOUND OR SET AT EACH CORNER OF THE SURVEY BOUNDARY OF THE SUBDIVISION. MONUMENTS AND LOT MARKERS WILL BE SET WITH 1/2" IRON PINS WITH PLASTIC CAP STAMPED "HMT" IMMEDIATELY AFTER COMPLETION OF UTILITY INSTALLATION AND STREET CONSTRUCTION UNLESS NOTED OTHERWISE.
4. THIS SUBDIVISION IS NOT WITHIN THE CITY LIMITS OF SEGUIN, TEXAS.
5. THIS SUBDIVISION IS WITHIN THE NAVARRO INDEPENDENT SCHOOL DISTRICT.
6. NO PORTION OF THE SUBDIVISION IS LOCATED WITHIN ANY SPECIAL FLOOD HAZARD AREA (100 YR. FLOOD), AS DEFINED BY THE GUADALUPE COUNTY, TEXAS, FLOOD INSURANCE RATE MAP NUMBER 48187C0130F, EFFECTIVE DATE NOVEMBER 2, 2007 AS PREPARED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY.
7. NO STRUCTURES, WALLS OR OTHER OBSTRUCTIONS OF ANY KIND SHALL BE PLACED WITHIN THE LIMITS OF THE DRAINAGE EASEMENTS SHOWN ON THIS PLAT. NO LANDSCAPING, FENCES, OR OTHER TYPE OF MODIFICATIONS WHICH ALTER THE CROSS SECTIONS OF THE DRAINAGE EASEMENTS OR DECREASE THE HYDRAULIC CAPACITY OF THE EASEMENT, AS APPROVED, SHALL BE ALLOWED WITHOUT THE APPROVAL OF THE CITY ENGINEER. THE CITY OF SEGUIN SHALL HAVE THE RIGHT OF INGRESS AND EGRESS OVER GRANTOR'S ADJACENT PROPERTY TO REMOVE ANY OBSTRUCTIONS PLACED WITHIN THE LIMITS OF SAID DRAINAGE EASEMENTS AND TO MAKE ANY MODIFICATIONS OR IMPROVEMENTS WITHIN SAID DRAINAGE EASEMENTS.
8. THE ELEVATION OF THE LOWEST FLOOR OF STRUCTURE SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE A FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100-YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE AND SHALL PREVENT WATER FROM LEAVING THE STREET.
9. THIS UNIT CONTAINS 2 RESIDENTIAL BLOCKS, 30 BUILDABLE RESIDENTIAL LOTS AND 2.30 ACRES OF STREET R.O.W.
10. DEVELOPMENT IS SUBJECT TO THE CITY OF SEGUIN'S PARKLAND DEDICATION ORDINANCE. THIS IS A 100% FEE IN-LIEU-OF PARKLAND DEDICATION AND DEVELOPMENT SUBDIVISION. FEES WILL BE PAID IN ACCORDANCE WITH THE UDC.
11. OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR MAINTAINING ANY DRAINAGE EASEMENTS, DRAINAGE LOTS AND/OR OPEN SPACE LOTS.
12. ANY INSTALLATION OF SEPTIC SYSTEMS WITHIN THE UNINCORPORATED AREAS OF GUADALUPE COUNTY MUST BE PERMITTED BY THE GUADALUPE COUNTY ROAD DEPT. AND GUADALUPE COUNTY ENVIRONMENTAL HEALTH DEPT.
13. ANY ACTIVITY OCCURRING WITHIN THE REGULATORY FLOODPLAIN OF THE UNINCORPORATED AREAS OF GUADALUPE COUNTY MUST BE PERMITTED BY THE GUADALUPE COUNTY FLOODPLAIN MANAGER.
14. THE MAINTENANCE OF ALL PUBLIC STREETS, OPEN SPACE, GREENBELTS, PARKS, TREE SAVE AREAS, DRAINAGE EASEMENTS, AND EASEMENTS OF ANY OTHER NATURE WITHIN THE SUBDIVISION SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER'S ASSOCIATION OR SPECIAL DISTRICT, OR ITS SUCCESSORS OR ASSIGNS AND NOT THE RESPONSIBILITY OF GUADALUPE COUNTY.
15. DEVELOPMENT IS LOCATED WITHIN PRECINCT 2, GUADALUPE COUNTY.

GVEC NOTES:

1. WHERE UNDERGROUND SERVICES ARE UTILIZED GVEC WILL POSSESS A 5-FOOT-WIDE EASEMENT TO THE SERVICE METER LOCATION. EASEMENT TO FOLLOW SERVICE LINE AND WILL VARY DEPENDING ON LOCATION OF BUILDING OR STRUCTURE.
2. GVEC SHALL HAVE ACCESS TO METER LOCATIONS FROM THE FRONT YARD WITH THE LOCATION NOT BEING WITHIN A FENCED AREA.
3. ANY EASEMENT DESIGNATED AS A GVEC 20' X 20' UTILITY EASEMENT SHALL REMAIN OPEN FOR ACCESS AT ALL TIMES AND SHALL NOT BE WITHIN A FENCED AREA.
4. ALL UTILITY EASEMENTS ARE FOR THE CONSTRUCTION, UPGRADE, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING OF METERS, AND REPAIR OF ALL OVERHEAD AND UNDERGROUND UTILITIES AND SHALL REMAIN AT FINAL GRADE.
5. ALL LOTS ADJOINING UTILITY LOT OR PRIVATE, CITY, COUNTY, OR STATE RIGHT OF WAY ARE SUBJECT TO A 5'X 30' GUY WIRE EASEMENT ALONG SIDE AND REAR LOT LINES
6. ALL ELECTRIC EASEMENTS, FOR BOTH PRIMARY AND SECONDARY ELECTRIC SERVICE, INCLUDE RIGHTS OF INGRESS AND EGRESS ACROSS THE SUBDIVISION FOR THE PURPOSE OF INSTALLING, SERVICING, UPGRADING, AND MAINTAINING THE ELECTRICAL FACILITIES AND SHALL REMAIN AT FINAL GRADE.
7. ANY REQUEST TO SUBSEQUENTLY RELOCATE ANY PORTION OF THE ELECTRIC FACILITIES INSTALLED SHALL BE SUBJECT TO THE COOPERATIVE'S REASONABLE DISCRETION AND THE REQUESTING PARTY SHALL BEAR ALL COSTS ASSOCIATED WITH SUCH RELOCATION.
8. THE COOPERATIVE SHALL ONLY BE REQUIRED TO FILL, GRADE, AND RESTORE GROUND COVER BACK TO ORIGINAL GRADE AS A RESULT OF ANY EXCAVATION BY OR ON BEHALF OF THE COOPERATIVE.

THIS SUBDIVISION PLAT OF NAVARRO SUBDIVISION UNIT 9 HAS BEEN SUBMITTED TO AND APPROVED BY GUADALUPE VALLEY ELECTRIC COOPERATIVE, INC. FOR EASEMENTS.

_____
AGENT FOR GUADALUPE VALLEY ELECTRIC COOP., INC.

KNOW ALL MEN BY THESE PRESENTS:

I, THE UNDERSIGNED DOROTHY J. TAYLOR, A REGISTERED PROFESSIONAL LAND SURVEYOR IN THE STATE OF TEXAS, HEREBY CERTIFY THAT THIS PLAT IS TRUE AND CORRECTLY MADE UNDER MY SUPERVISION AND IN COMPLIANCE WITH CITY AND STATE SURVEY REGULATIONS AND LAWS AND MADE ON THE GROUND AND THAT THE CORNER MONUMENTS WERE PROPERLY PLACED UNDER MY SUPERVISION.

PRELIMINARY, THIS DOCUMENT SHALL NOT BE RECORDED FOR ANY PURPOSE.

_____
DOROTHY J. TAYLOR
REGISTERED PROFESSIONAL LAND SURVEYOR NO. 6295
290 S. CASTELL AVE., SUITE 100, NEW BRAUNFELS, TEXAS 78130

PLAT PREPARED NOVEMBER 7, 2024

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

FINAL PLAT ESTABLISHING
NAVARRO SUBDIVISION UNIT 9

BEING 16.07 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO.20, GUADALUPE COUNTY, TEXAS, BEING COMPRISED OF THE FOLLOWING TWO TRACTS:
1) A CALLED 38.8986 ACRE TRACT, "TRACT A", RECORDED IN VOLUME 950, PAGE 754, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.;
2) A CALLED 37.2562 ACRE TRACT, "TRACT B", RECORDED IN VOLUME 938, PAGE 791, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.;

0 50 100 200
HORIZONTAL SCALE: 1:100

CCSUD WATER PLAT NOTES: REV. 12/2022

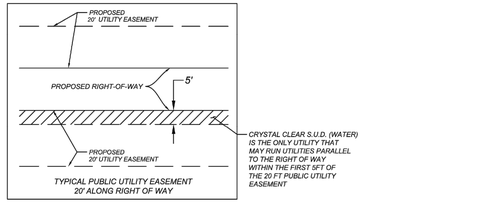
1. WATER IS TO BE SUPPLIED BY CRYSTAL CLEAR SPECIAL UTILITY DISTRICT (CCSUD).
2. CCSUD SHALL HAVE ACCESS TO ALL METERS. METERS SHALL BE LOCATED IN THE FRONT YARD, WITHIN EASEMENT AND NOT WITHIN A FENCED AREA.
3. ANY EASEMENT DESIGNATED FOR PLACEMENT OF A CCSUD UTILITY SHALL REMAIN OPEN AND ACCESSIBLE AT ALL TIMES. ONLY SIDE LOT EASEMENTS MAY BE WITHIN A FENCED AREA. NO UTILITIES MAY BE INSTALLED WITHIN REAR LOT EASEMENTS.
4. ALL CCSUD EASEMENTS ARE FOR CONSTRUCTION, MAINTENANCE (INCLUDING BUT NOT LIMITED TO REMOVAL OF TREES AND OTHER OBSTRUCTIONS), READING METERS, AND REPAIR OF ANY CCSUD INFRASTRUCTURE LOCATED WITHIN THE UTILITY EASEMENT.
5. NO CONCRETE OR PAVEMENT MAY BE PLACED OVER CCSUD WATER INFRASTRUCTURE EXCEPT AT PERPENDICULAR CROSSINGS. IN AREAS WHERE A WATER MAIN CROSSES A ROADWAY, THE WATER MAIN MUST BE ENCASED OR CONSTRUCTED OF DUCTILE IRON PIPE. SERVICE LINES MUST BE ENCASED PER CCSUD STANDARD CONSTRUCTION DETAILS.

_____ DATE
_____ CRYSTAL CLEAR SPECIAL UTILITY DISTRICT

LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	191.78'	S89°33'38"W
L2	156.38'	N10°52'05"W
L3	10.22'	N52°15'47"W
L4	70.38'	N27°58'48"W
L5	44.32'	N58°51'53"W
L6	83.37'	N74°50'05"W
L7	15.00'	S00°27'24"E
L8	105.15'	S89°32'36"W
L9	115.00'	N00°27'24"W
L10	22.00'	S89°32'36"W
L11	110.00'	N00°27'24"W
L12	22.00'	N89°32'36"E
L13	115.00'	N00°27'24"W
L14	105.15'	N89°32'36"E
L15	15.00'	S00°27'24"E
L16	105.00'	N00°27'24"W
L17	12.00'	S89°32'36"W
L18	70.00'	N00°27'24"W
L19	12.00'	N89°32'36"E
L20	105.00'	N00°27'24"W

LINE TABLE		
LINE #	LENGTH	DIRECTION
L21	71.86'	N89°19'44"E
L22	0.07'	N89°25'35"E
L23	70.00'	S00°40'35"E

CURVE TABLE				
CURVE	LENGTH	RADIUS	DELTA	CHORD DIRECTION
C1	23.56'	15.00'	90°00'00"	N45°27'24"W
C2	23.56'	15.00'	90°00'01"	N44°32'36"E
C3	23.56'	15.00'	90°00'00"	N45°27'24"W
C4	23.56'	15.00'	90°00'00"	N44°32'36"E
C5	195.74'	355.00'	31°35'31"	N74°39'39"W
C6	157.14'	285.00'	31°35'31"	N74°39'39"W
C7	148.46'	265.00'	32°05'54"	S74°54'50"E
C8	187.39'	335.00'	32°03'01"	S74°53'24"E



TYPICAL PUBLIC UTILITY EASEMENT
20' ALONG RIGHT OF WAY

STATE OF TEXAS
COUNTY OF GUADALUPE

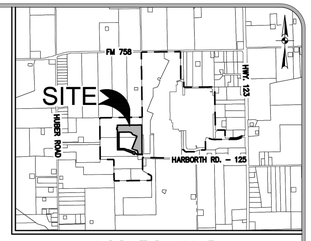
I (WE), THE UNDERSIGNED OWNER(S) OF THE LAND SHOWN ON THIS PLAT, AND DESIGNATED HEREIN AS NAVARRO SUBDIVISION UNIT 9, A SUBDIVISION TO THE COUNTY OF GUADALUPE, TEXAS, AND WHOSE NAME IS SUBSCRIBED HERETO, DO HEREBY SUBDIVIDE SUCH PROPERTY AND DEDICATE TO THE USE OF THE PUBLIC ALL STREETS, ALLEYS, PARKS, DRAINS, EASEMENTS, AND PUBLIC PLACES THEREON SHOWN FOR THE PURPOSES AND CONSIDERATION THEREIN EXPRESSED.

_____
LENNAR HOMES OF TEXAS LAND AND CONSTRUCTION, LTD.
100 N.E. LOOP 410, SUITE 1155
SAN ANTONIO, TX 78216

STATE OF TEXAS
COUNTY OF _____.

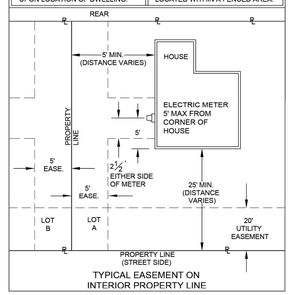
THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS
_____ DAY OF _____, 20__,
BY _____

_____
NOTARY PUBLIC, STATE OF TEXAS
MY COMMISSION EXPIRES: _____



LOCATION MAP
NOT TO SCALE

NOTE: G.V.E.C. WILL MAINTAIN 5' EASEMENT FOR SERVICE ENTRANCE TO DWELLING. THIS EASEMENT WILL VARY DEPENDING UPON LOCATION OF DWELLING.	G.V.E.C. SHALL HAVE ACCESS TO THE METER LOCATIONS FROM THE FRONT YARDS WITH THE METER LOCATIONS NOT BEING LOCATED WITHIN A FENCED AREA.



TYPICAL EASEMENT ON INTERIOR PROPERTY LINE

APPROVED THIS THE _____ DAY OF _____, 20__, BY THE PLANNING AND ZONING COMMISSION OF THE CITY OF SEGUIN, TEXAS.

_____ CHAIRMAN
_____ RECORDER

APPROVED FOR ACCEPTANCE

_____ DATE
_____ PLANNING DIRECTOR

_____ DATE
_____ CITY ENGINEER

STATE OF TEXAS
COUNTY OF GUADALUPE

COUNTY CLERK, GUADALUPE COUNTY, TEXAS

_____
DEPUTY

SHEET 1 OF 3

FOR REFERENCE ONLY

This plat will be submitted to the Planning Division following approval of the construction plans.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

PLAT (1 OF 3)
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C0.3

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\C0s\337.116_PLAT.dwg User: christianc Nov 20, 2025 - 12:02pm
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Plat\Navarro Ranch West Unit 9.dwg User: adrianr Nov 19, 2025 - 5:24pm

FINAL PLAT ESTABLISHING

NAVARRO SUBDIVISION UNIT 9

BEING 16.07 ACRES OF LAND LOCATED IN THE A.M. ESNAURIZAR SURVEY, ABSTRACT NO.20, GUADALUPE COUNTY, TEXAS, BEING COMPRISED OF THE FOLLOWING TWO TRACTS:
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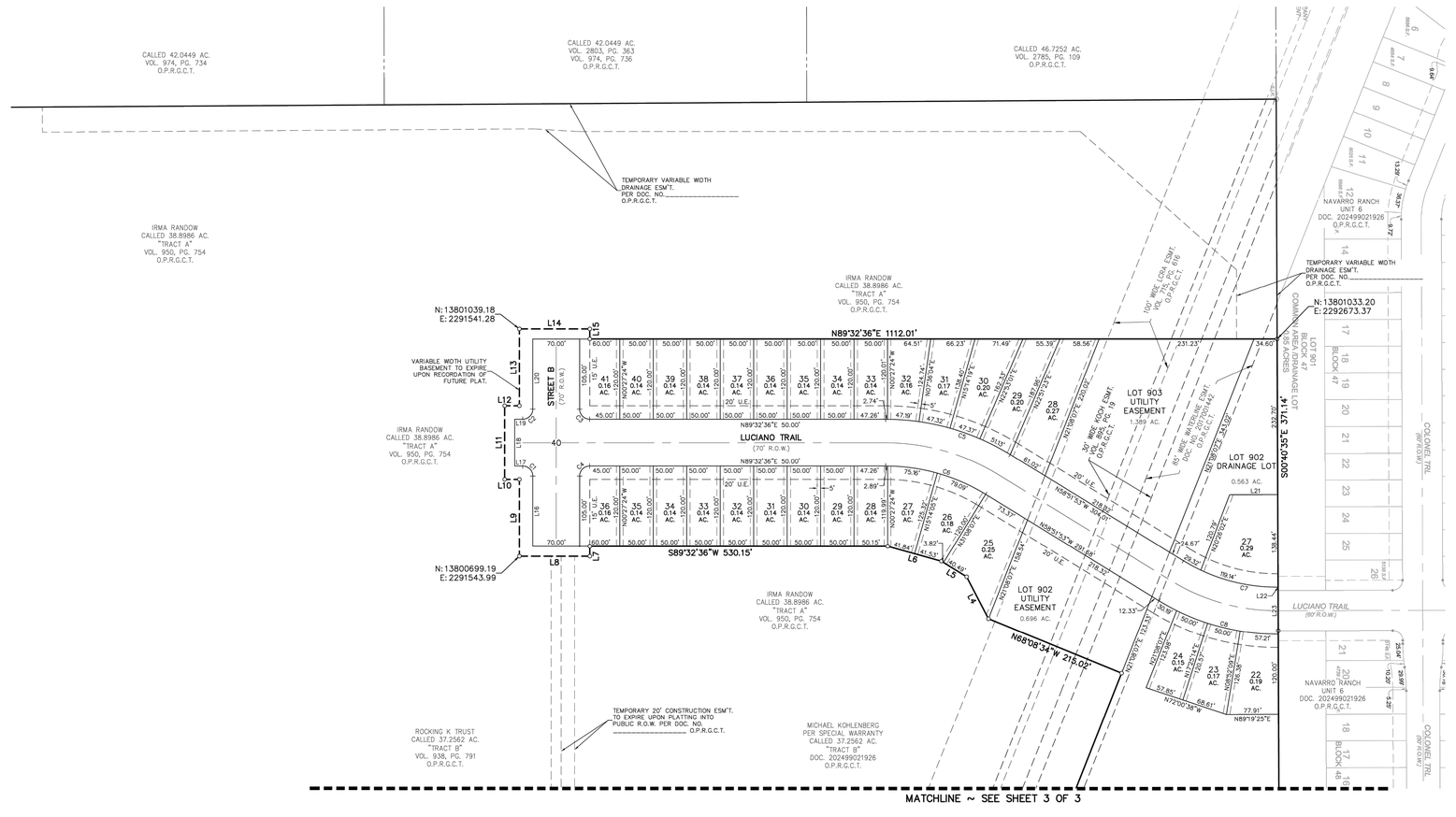
2) A CALLED 37.2562 ACRE TRACT, "TRACT B", RECORDED IN VOLUME 938, PAGE 791, OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS.;

0 50 100 200
HORIZONTAL SCALE: 1:100

LEGEND:
- ● = FND 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT" (UNLESS NOTED OTHERWISE)
- ○ = SET 1/2" IRON PIN W/ PLASTIC CAP STAMPED "HMT"
- U.E. = UTILITY EASEMENT
- DRNG = DRAINAGE
- R.O.W. = RIGHT-OF-WAY
- M.P.R.G.C.T. = MAP AND PLAT RECORDS, GUADALUPE COUNTY, TEXAS
- O.P.R.G.C.T. = OFFICIAL PUBLIC RECORDS, GUADALUPE COUNTY, TEXAS
- N.V.A.E. = NO VEHICLE ACCESS EASEMENT
- = PLAT BOUNDARY
- = RIGHT OF WAY LINE
- = LOT LINE
- = EASEMENT LINE



PLAT PREPARED NOVEMBER 7, 2024

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

SHEET 2 OF 3

FOR REFERENCE ONLY

This plat will be submitted to the Planning Division following approval of the construction plans.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

PLAT (2 OF 3)

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C0.4

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cbs\337.116_PLAT.dwg User: chrisfonc Nov 20, 2025 - 12:02pm
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Plat\Navarro Ranch West Unit 9.dwg User: adrianr Nov 19, 2025 - 5:24pm

FINAL PLAT ESTABLISHING

NAVARRO SUBDIVISION UNIT 9

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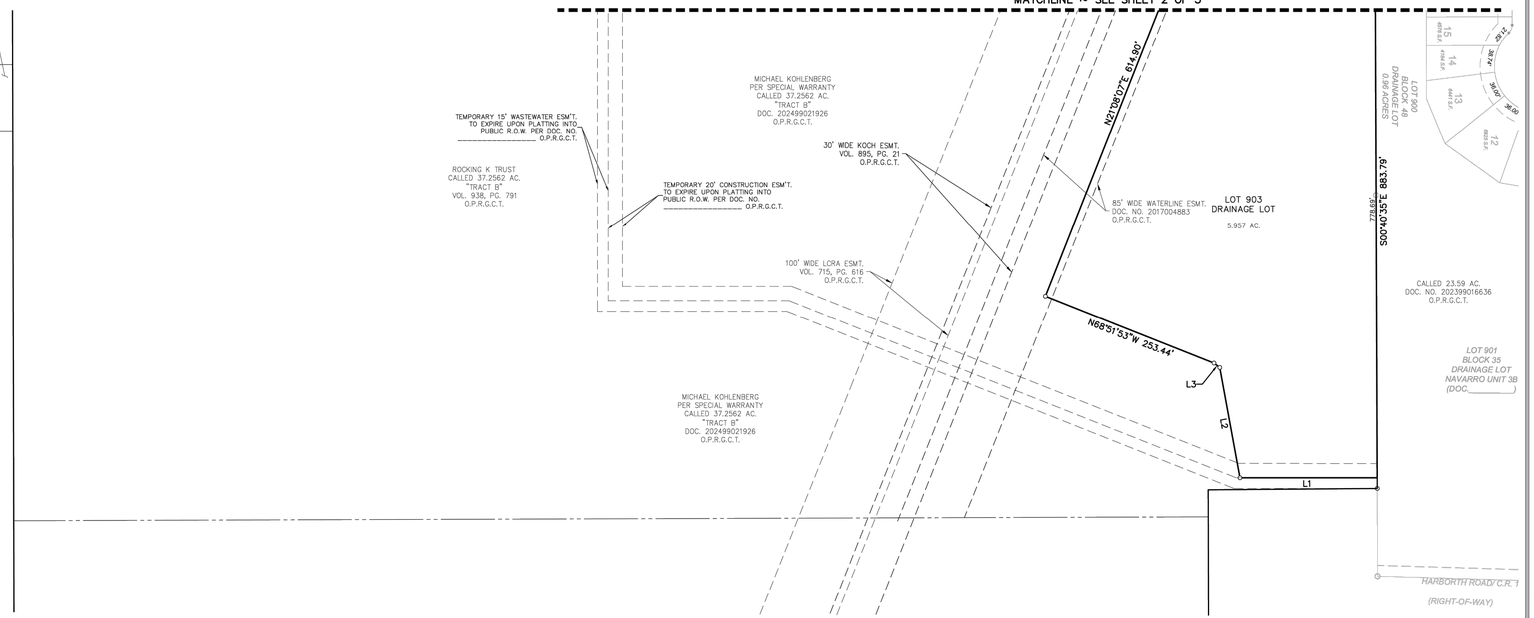
0 50 100 200
HORIZONTAL SCALE: 1:100



PLAT PREPARED NOVEMBER 7, 2024

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

SHEET 3 OF 3

FOR REFERENCE ONLY

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HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
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11/20/2025

PLAT (3 OF 3)

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C0.5

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Civil\337.116_PLAT.dwg User: christianc Nov 20, 2025 - 12:02pm
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Plat\Navarro Ranch West Unit 9.dwg User: adrianr Nov 19, 2025 - 5:24pm

Table 1 - Existing Conditions Hydrology Calculations - Guadalupe County										
Point of Concentration	Description	Drainage Area	Area	T_c	CN	Impervious %	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
3	Existing Drainage Area A	A+C	140.7	56.8	78	2.93%	176.9	322.7	421.8	600.2
2	Existing Drainage Area B	B	65.6	63.0	78	0.0%	74.9	140.4	185.3	265.1
4	Combined Drainage Areas	A+B+C	206.3	SEE HMS MODEL			250.9	462.0	605.9	863.5

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- DRAINAGE AREA
- TC — TC — TIME OF CONCENTRATION
- # — POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DA / ACRES — DRAINAGE AREA LABEL
- FLOW TYPE TRANSITION
- LIMITS OF 100-YR INUNDATION

0 100 200 400
HORIZONTAL SCALE: 1:200

100 LF SHEET FLOW @ 0.40%

3030 LF SHALLOW FLOW @ 0.83%

100 LF SHEET FLOW @ 1.00%

2196 LF CHANNEL FLOW

2953 LF SHALLOW FLOW @ 0.40%

EXISTING SWALE

EXISTING UNIT 6 CHANNEL

EXISTING RETENTION POND

FUTURE UNITS

A 138.7 AC

B 65.6 AC

C 2.0 AC

100' WIDE LCRA ESMT. VOL. 715, PG. 616 O.P.R.G.C.T.

30' WIDE KOCH ESMT. VOL. 895, PG. 23 O.P.R.G.C.T.

30' WIDE KOCH ESMT. VOL. 895, PG. 21 O.P.R.G.C.T.

85' WIDE WATERLINE ESMT. DOC. NO. 2017004233 O.P.R.G.C.T.

85' WIDE WATERLINE ESMT. DOC. NO. 2017004883 O.P.R.G.C.T.

85' WIDE WATERLINE ESMT. DOC. NO. 2017001442 O.P.R.G.C.T.

2ND TRACT VIRGINIA HOFFMANN CALLED 24.92 ACRES VOL. 878, PG. 316 O.P.R.G.C.T.

3RD TRACT EVELYN HOFFMANN CALLED 24.92 AC. VOL. 878, PG. 318 O.P.R.G.C.T.

REMAINDER OF A CALLED 51 AC. VOL. 195, PG. 389 D.R.G.C.T.

LOT 2 NEUMANN SUBDIVISION VOL. 5, PGS. 214A-214B M.P.R.G.C.T.

CALLED 35.00 AC. VOL. 1712, PG. 587 O.P.R.G.C.T.

CALLED 90.431 AC. VOL. 4257, PG. 249 O.P.R.G.C.T.

CALLED 42.0449 AC. VOL. 974, PG. 734 O.P.R.G.C.T.

CALLED 42.0449 AC. VOL. 2803, PG. 363 VOL. 974, PG. 738 O.P.R.G.C.T.

CALLED 46.7252 AC. VOL. 2785, PG. 109 O.P.R.G.C.T.

CALLED 1.00 AC. VOL. 753, PG. 7 O.P.R.G.C.T.

CALLED 36.8145 AC. "TRACT E" VOL. 735, PG. 764 O.P.R.G.C.T.

NAVARRO RANCH UNIT 6 DOC. NO. 202499021926 O.P.R.G.C.T.

NAVARRO UNIT 6

HABERLOH RD

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

EXISTING DRAINAGE MAP

NAVARRO SUBDIVISION UNIT 9

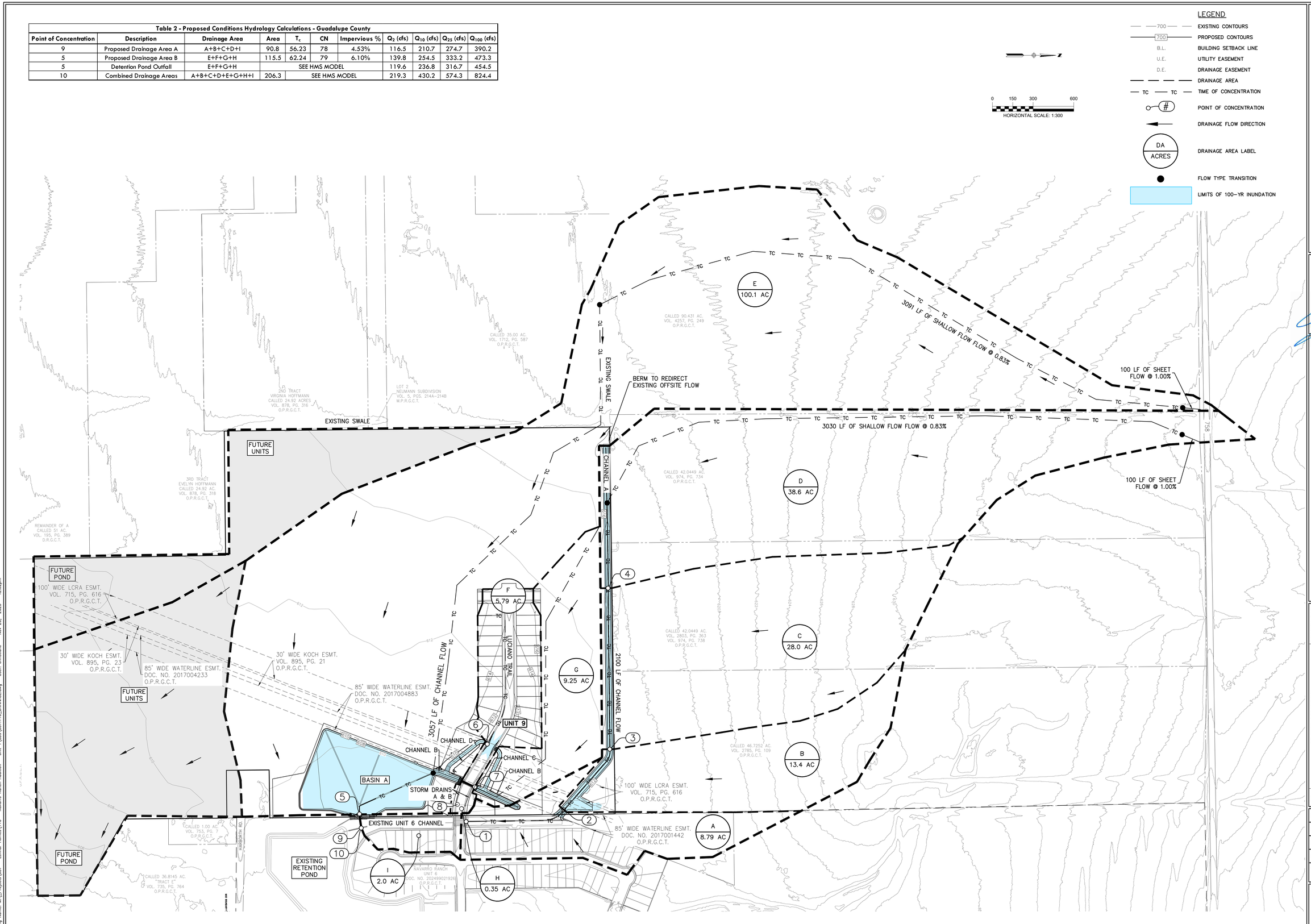
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C1.0

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\03a\337.116_DRAINAGE.dwg User: chrisllanc Nov 20, 2025 - 12:02pm

Table 2 - Proposed Conditions Hydrology Calculations - Guadalupe County										
Point of Concentration	Description	Drainage Area	Area	T_c	CN	Impervious %	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
9	Proposed Drainage Area A	A+B+C+D+I	90.8	56.23	78	4.53%	116.5	210.7	274.7	390.2
5	Proposed Drainage Area B	E+F+G+H	115.5	62.24	79	6.10%	139.8	254.5	333.2	473.3
5	Detention Pond Outfall	E+F+G+H	SEE HMS MODEL				119.6	236.8	316.7	454.5
10	Combined Drainage Areas	A+B+C+D+E+G+H+I	206.3	SEE HMS MODEL			219.3	430.2	574.3	824.4



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

PROPOSED DRAINAGE MAP

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET
C1.1

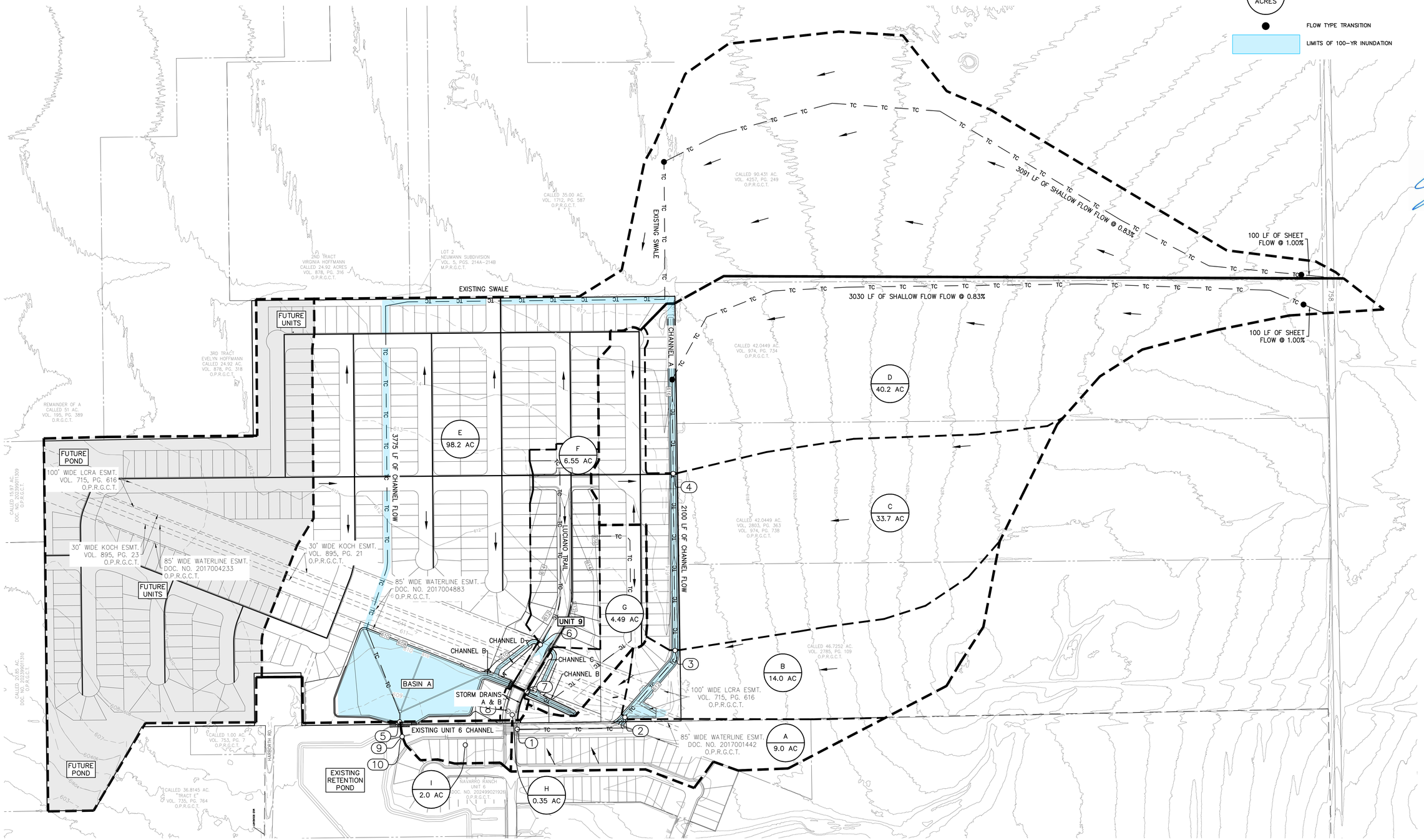
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Civil\337.116_DRAINAGE.dwg User: christianc Nov 20, 2025 - 12:02pm

Table 4 - Ultimate Conditions Hydrology Calculations - Guadalupe County										
Point of Concentration	Description	Drainage Area	Area	T_c	CN	Impervious %	Q_2 (cfs)	Q_{10} (cfs)	Q_{25} (cfs)	Q_{100} (cfs)
9	Ultimate Drainage Area A	A+B+C+D+I	98.9	56.23	78	9.75%	132.1	233.7	302.8	427.8
5	Ultimate Drainage Area B	E+F+G+H	109.6	62.98	79	29.39%	155.9	259.7	331.1	459.7
5	Detention Pond Outfall	E+F+G+H	SEE HMS MODEL				135.9	242.4	315.1	441.5
10	Combined Drainage Areas	A+B+C+D+E+F+G+H+I	208.5	SEE HMS MODEL			250.4	458.2	399.9	847.4

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- DRAINAGE AREA
- TIME OF CONCENTRATION
- POINT OF CONCENTRATION
- DRAINAGE FLOW DIRECTION
- DRAINAGE AREA LABEL
- FLOW TYPE TRANSITION
- LIMITS OF 100-YR INUNDATION

0 100 200 400
HORIZONTAL SCALE: 1:200



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

ULTIMATE DRAINAGE MAP

NAVARRO SUBDIVISION UNIT 9

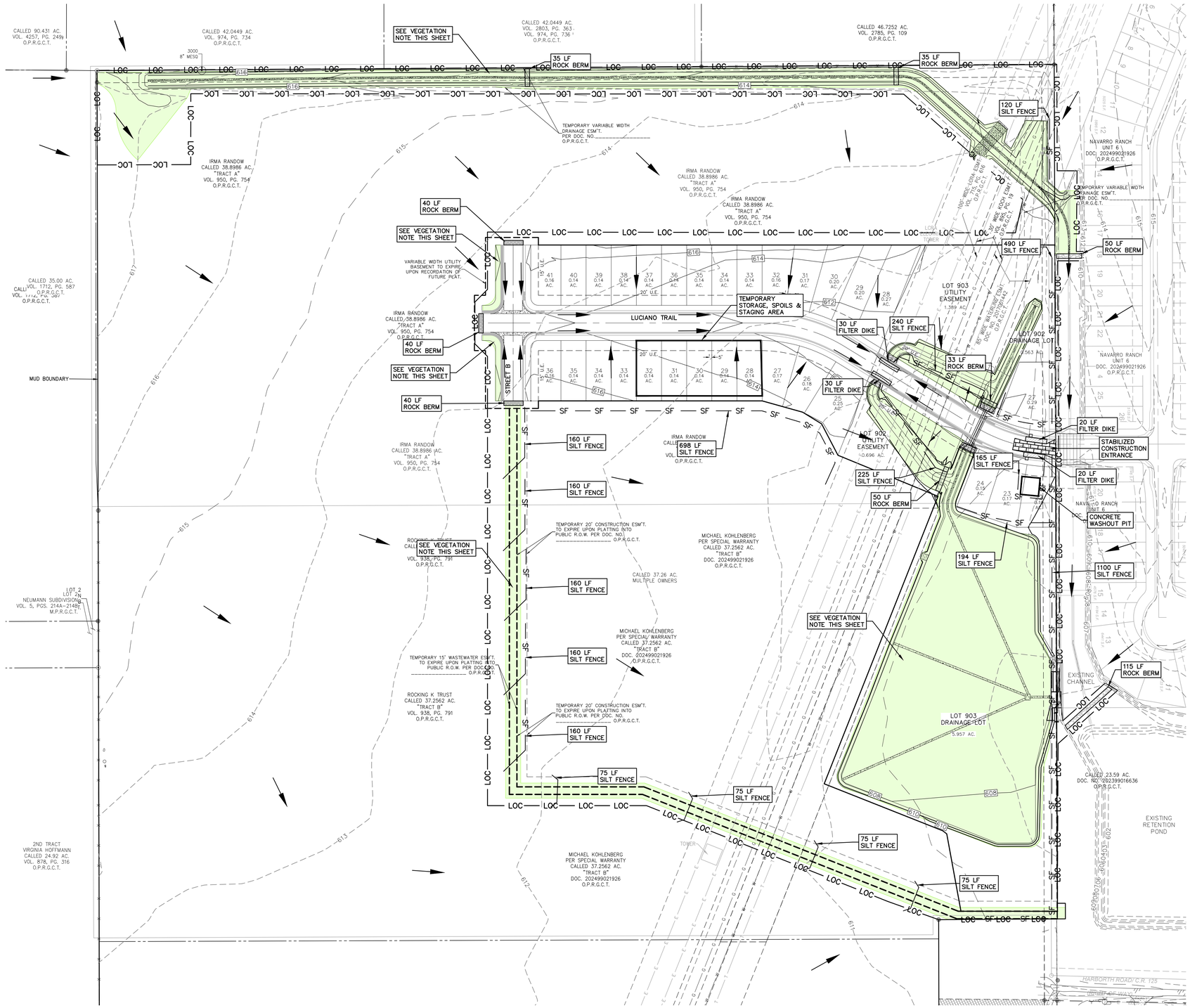
NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET

C1.2

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_DRAINAGE.dwg User: christianc Nov 20, 2025 - 12:02pm



LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- DRAINAGE FLOW DIRECTION
- SF SILT FENCE
- LOC LIMIT OF CONSTRUCTION
- STABILIZED CONSTRUCTION ENTRANCE
- VEGETATION (SEE NOTE)
- FILTER DIKE CURB INLET PROTECTION
- ROCK BERM

VEGETATION NOTE:

PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENT) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.

SILT FENCE AT PROPERTY LINE MAY BE SHOWN GRAPHICALLY OFFSET FROM PROPERTY LINE TO AVOID OVERLAP OF LINEWORK. CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES BEYOND LIMITS OF CONSTRUCTION REGARDLESS OF GRAPHIC REPRESENTATION.

SEQUENCE OF CONSTRUCTION

1. INSTALL EROSION CONTROLS PER APPROVED PLAN.
2. TEMPORARY CONTROLS TO BE INSPECTED AND MAINTAINED WEEKLY AND PRIOR TO ANTICIPATED RAINFALL EVENTS, AND AFTER RAINFALL EVENTS, AS NEEDED. CONTRACTOR/OWNER SHALL PROVIDE A CONTACT NAME AND NUMBER FOR EROSION CONTROL ISSUES.
3. CONDUCT DEMOLITION ACTIVITIES, IF APPLICABLE.
4. CONSTRUCT DRAINAGE IMPROVEMENTS, IF APPLICABLE.
5. CONSTRUCT CURB INLET PROTECTION AT THE TIME OF CURB INLET INSTALLATION.
6. CONSTRUCT DEVELOPMENT PER APPROVED PLANS.
7. INSTALL STREETSCAPE AND/OR LANDSCAPING IMPROVEMENTS.
8. CONTRACTOR TO VEGETATE ANY DISTURBED AREAS ONCE FINAL GRADING IS COMPLETE, AND ESTABLISH A MIN OF 70% VEGETATION PRIOR TO COMPLETION. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING DOES NOT CONSTITUTE AS STABILIZATION.
9. REMOVE ALL TEMPORARY EROSION CONTROL MEASURES.

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131984
LICENSED
PROFESSIONAL ENGINEER
12/10/2025

EROSION CONTROL PLAN

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET

C2.0

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\CD\337.116_EROSION.dwg User: chrisdanc Dec 09, 2025 - 5:11pm

CONCRETE WASHOUT AREAS

THE PURPOSE OF CONCRETE WASHOUT AREAS IS TO PREVENT OR REDUCE THE DISCHARGE OF POLLUTANTS TO STORMWATER FROM CONCRETE WASTE BY CONDUCTING WASHOUT OFFSITE, PERFORMING ONSITE WASHOUT IN A DESIGNATED AREA, AND TRAINING EMPLOYEES AND SUBCONTRACTORS.

THE FOLLOWING STEPS WILL HELP REDUCE STORMWATER POLLUTION FROM CONCRETE WASTES:

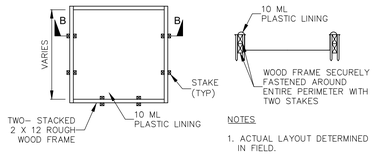
- INCORPORATE REQUIREMENTS FOR CONCRETE WASTE MANAGEMENT INTO MATERIAL SUPPLIER AND SUBCONTRACTOR AGREEMENTS.
- AVOID MIXING EXCESS AMOUNTS OF FRESH CONCRETE.
- PERFORM WASHOUT OF CONCRETE TRUCKS IN DESIGNATED AREAS ONLY.
- DO NOT WASH OUT CONCRETE TRUCKS INTO STORM DRAINS, OPEN DITCHES, STREETS, OR STREAMS.
- DO NOT ALLOW EXCESS CONCRETE TO BE DUMPED ONSITE, EXCEPT IN DESIGNATED AREAS.

FOR ONSITE WASHOUT:

- LOCATE WASHOUT AREA AT LEAST 50 FEET FROM SENSITIVE FEATURES, STORM DRAINS, OPEN DITCHES, OR WATER BODIES. DO NOT ALLOW RUNOFF FROM THIS AREA BY CONSTRUCTING A TEMPORARY PIT OR BERMED AREA LARGE ENOUGH FOR LIQUID AND SOLID WASTE.
- WASH OUT WASTES INTO THE TEMPORARY PIT WHERE THE CONCRETE CAN SET, BE BROKEN UP, AND THEN DISPOSED PROPERLY.

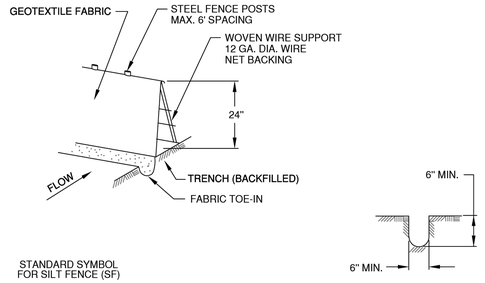
BELOW GRADE CONCRETE WASHOUT FACILITIES ARE TYPICAL. THESE CONSIST OF A LINED EXCAVATION SUFFICIENTLY LARGE TO HOLD EXPECTED VOLUME OF WASHOUT MATERIAL. ABOVE GRADE FACILITIES ARE USED IF EXCAVATION IS NOT PRACTICAL. TEMPORARY CONCRETE WASHOUT FACILITY (TYPE ABOVE GRADE) SHOULD BE CONSTRUCTED AS SHOWN ON THE DETAILS AT THE END OF THIS SECTION, WITH SUFFICIENT QUANTITY AND VOLUME TO CONTAIN ALL LIQUID AND CONCRETE WASTE GENERATED BY WASHOUT OPERATIONS. PLASTIC LINING MATERIAL SHOULD BE A MINIMUM OF 10 MIL IN POLYETHYLENE SHEETING AND SHOULD BE FREE OF HOLES, TEARS, OR OTHER DEFECTS THAT COMPROMISE THE IMPERMEABILITY OF THE MATERIAL.

WHEN TEMPORARY CONCRETE WASHOUT FACILITIES ARE NO LONGER REQUIRED FOR THE WORK, THE HARDENED CONCRETE SHOULD BE REMOVED AND DISPOSED OF. MATERIALS USED TO CONSTRUCT TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE REMOVED FROM THE SITE OF THE WORK AND DISPOSED OF HOLES, DEPRESSIONS OR OTHER GROUND DISTURBANCE CAUSED BY THE REMOVAL OF THE TEMPORARY CONCRETE WASHOUT FACILITIES SHOULD BE BACKFILLED AND REPAIRED.



PLAN — SECTION B–B

CONCRETE WASHOUT PIT DETAIL
TYPE "ABOVE GRADE"
NOT TO SCALE



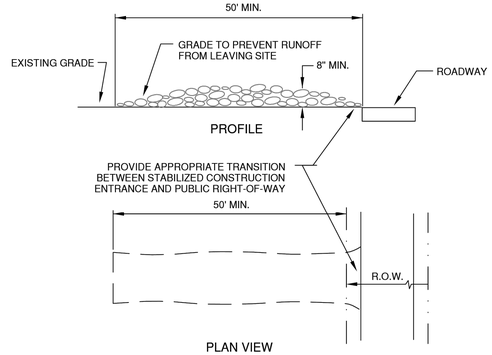
TRENCH CROSS SECTION

NOTES:

1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF 1".
2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW. WHERE FENCE CAN NOT BE TRENCHED INTO THE SURFACE (E.G. PAVEMENT), THE FABRIC FLAP SHALL BE WEIGHTED DOWN WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE.
3. THE TRENCH MUST BE A MINIMUM OF 6 inches DEEP AND 6 inches WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL.
4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST.
5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED.
6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE.
7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 inches. THE SILT SHALL BE DISPOSED OF ON AN APPROVED SITE AND IN SUCH A MANNER THAT WILL NOT CONTRIBUTE TO ADDITIONAL SILTATION.

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY: H Shadrock	STANDARD DRAWING: SILT FENCE			
APPROVED BY:	UPDATED: 4-29-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 501

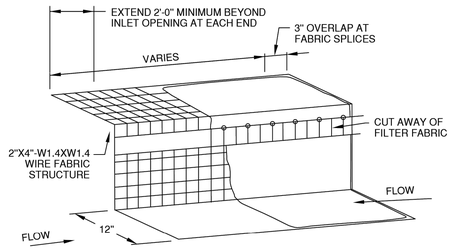


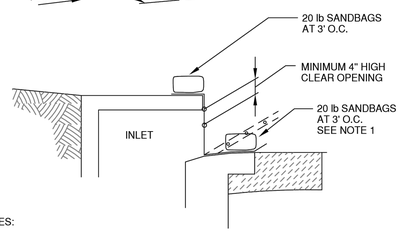
NOTES:

1. STONE SIZE: 3"-5" OPEN GRADED ROCK.
2. LENGTH: AS EFFECTIVE BUT NOT LESS THAN 50'.
3. THICKNESS: NOT LESS THAN 8".
4. WIDTH: NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS/EGRESS.
5. WASHING: WHEN NECESSARY, VEHICLE WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC ROADWAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE AND DRAINS INTO AN APPROVED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH OR WATERCOURSE USING APPROVED METHODS.
6. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC ROADWAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND, AS WELL AS REPAIR AND CLEAN OUT OF ANY MEASURE DEVICES USED TO TRAP SEDIMENT. ALL SEDIMENTS THAT IS SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADWAY MUST BE REMOVED IMMEDIATELY.
7. DRAINAGE: ENTRANCE MUST BE PROPERLY GRADED OR INCORPORATE A DRAINAGE SWALE TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY: H Shadrock	STANDARD DRAWING: STABILIZED CONSTRUCTION ENTRANCE			
APPROVED BY:	UPDATED: 4-30-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 506



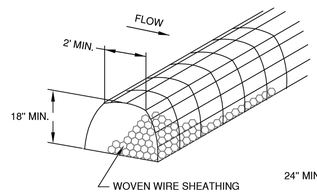


NOTES:

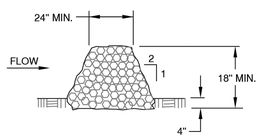
1. WHERE MINIMUM CLEARANCES CAUSE TRAFFIC TO DRIVE IN THE GUTTER, THE CONTRACTOR MAY SUBSTITUTE A 1" X 4" BOARD SECURED WITH CONCRETE NAILS 3' O.C. NAILED INTO THE GUTTER IN LIEU OF SANDBAGS TO HOLD THE FILTER DIKE IN PLACE. UPON REMOVAL, CLEAN ANY DIRT/DEBRIS FROM NAILING LOCATIONS, APPLY CHEMICAL SANDING AGENT AND APPLY NON-SHRINK GROUT FLUSH WITH SURFACE OF GUTTER.
2. A SECTION OF FILTER FABRIC SHALL BE REMOVED AS SHOWN ON THIS DETAIL OR AS DIRECTED BY THE ENGINEER OR DESIGNATED REPRESENTATIVE. FABRIC MUST BE SECURED TO WIRE BACKING WITH CLIPS OR HOG RINGS AT THIS LOCATION.
3. DAILY INSPECTION SHALL BE MADE BY THE CONTRACTOR AND SILT ACCUMULATION MUST BE REMOVED WHEN DEPTH REACHES 2".
4. CONTRACTOR SHALL MONITOR THE PERFORMANCE OF INLET PROTECTION DURING EACH RAINFALL EVENT AND IMMEDIATELY REMOVE THE INLET PROTECTIONS IF THE STORM-WATER BEGINS TO OVER-TOP THE CURB.
5. INLET PROTECTIONS SHALL BE REMOVED AS SOON AS THE SOURCE OF SEDIMENT IS STABILIZED.

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY: H Shadrock	STANDARD DRAWING: FILTER DIKE CURB INLET PROTECTION			
APPROVED BY:	UPDATED: 4-29-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 505



ROCK BERM



CROSS SECTION

STANDARD SYMBOL FOR ROCK BERM (RB)
RB

NOTES:

1. USE ONLY OPEN GRADED ROCK 4" to 8" DIAMETER FOR STREAM FLOW CONDITIONS. USE OPEN GRADED ROCK 3" to 5" DIAMETER FOR OTHER CONDITIONS.
2. THE ROCK BERM SHALL BE SECURED WITH A WOVEN WIRE SHEATHING HAVING MAXIMUM 1" OPENING AND MINIMUM WIRE DIAMETER OF 20 GAUGE. ROCK BERMS IN CHANNEL APPLICATIONS SHALL BE ANCHORED FIRMLY INTO THE SUBSTRATE A MINIMUM OF 6 " WITH T-POSTS OR WITH #5 OR #6 REBAR, WITH MAXIMUM SPACING APART OF 48" ON CENTER.
3. THE ROCK BERM SHALL BE INSPECTED WEEKLY OR AFTER EACH RAIN, AND THE STONE AND/OR FABRIC CORE-WOVEN SHEATHING SHALL BE REPLACED WHEN THE STRUCTURE CEASES TO FUNCTION AS INTENDED, DUE TO SILT ACCUMULATION AMONG THE ROCKS, WASHOUT, CONSTRUCTION TRAFFIC DAMAGE, ETC.
4. WHEN SILT REACHES A DEPTH EQUAL TO ONE-THIRD THE HEIGHT OF THE BERM OR 6", WHICHEVER IS LESS, THE SILT SHALL BE REMOVED AND DISPOSED OF ON AN APPROVED SITE AND IN A MANNER THAT WILL NOT CREATE A SILTATION PROBLEM.
5. DAILY INSPECTION SHALL BE MADE ON SEVERE-SERVICE ROCK BERMS; SILT SHALL BE REMOVED WHEN ACCUMULATION REACHES 6".
6. WHEN THE SITE IS COMPLETELY STABILIZED, THE BERM AND ACCUMULATED SILT SHALL BE REMOVED AND DISPOSED OF IN AN APPROVED MANNER.

NEW BRAUNFELS UTILITIES WATER SYSTEMS ENGINEERING

DRAWN BY: H Shadrock	STANDARD DRAWING: ROCK BERM			
APPROVED BY:	UPDATED: 4-29-03	SCALE: N.T.S.	SHEET: 1 OF 1	DRAWING NO. 502

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

EROSION DETAILS

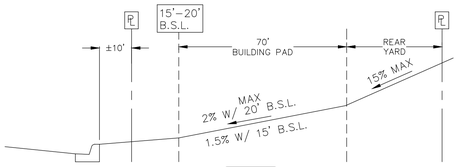
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

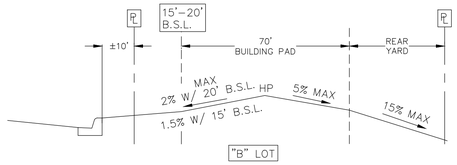
DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C2.1

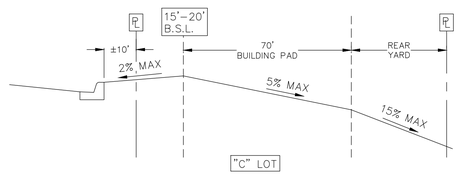
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\03a\337.116_EROSION DETAILS.dwg User: christianc Nov 20, 2025 - 12:03pm



"A" LOT

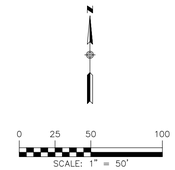


"B" LOT



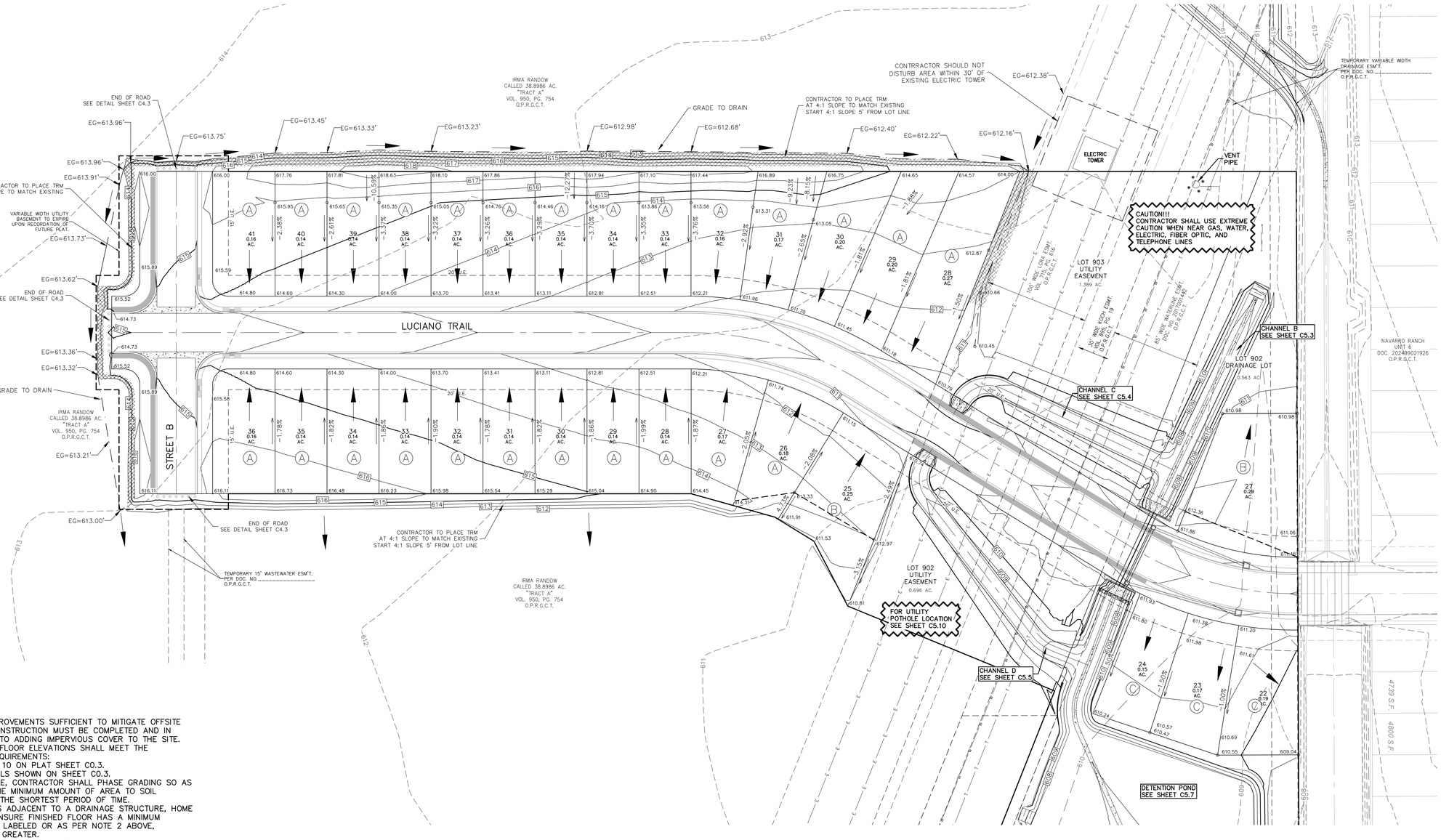
"C" LOT

LENNAR LOT GRADING STANDARDS



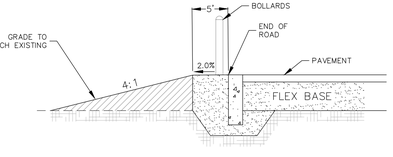
LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- (A) LOT GRADING SEE DETAILS SHEET C3.1
- DRAINAGE FLOW DIRECTION
- FF=XXX.X MINIMUM FINISHED FLOOR ELEVATION
- TURF REINFORCEMENT MAT (TRM)
- GRADING BREAKLINE



NOTES:

1. DRAINAGE IMPROVEMENTS SUFFICIENT TO MITIGATE OFFSITE IMPACT OF CONSTRUCTION MUST BE COMPLETED AND IN PLACE PRIOR TO ADDING IMPERVIOUS COVER TO THE SITE.
2. ALL FINISHED FLOOR ELEVATIONS SHALL MEET THE FOLLOWING REQUIREMENTS:
   2.A. PER NOTE 10 ON PLAT SHEET C0.3.
   2.B. HUD DETAILS SHOWN ON SHEET C0.3.
3. WHEN POSSIBLE, CONTRACTOR SHALL PHASE GRADING SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST PERIOD OF TIME.
4. FOR ANY LOTS ADJACENT TO A DRAINAGE STRUCTURE, HOME BUILDER TO ENSURE FINISHED FLOOR HAS A MINIMUM ELEVATION AS LABELED OR AS PER NOTE 2 ABOVE, WHICHEVER IS GREATER.
5. STRIPPING OF VEGETATION FROM PROJECT SITES SHALL BE PHASED SO AS TO EXPOSE THE MINIMUM AMOUNT OF AREA TO SOIL EROSION FOR THE SHORTEST POSSIBLE PERIOD OF TIME PER THE NEW BRAUNFELS DRAINAGE AND EROSION CONTROL DESIGN MANUAL SEC. 12.2(N).
6. PER TPDES REQUIREMENTS, DISTURBED AREAS ON WHICH CONSTRUCTION ACTIVITIES HAVE CEASED (TEMPORARILY OR PERMANENTLY) SHALL BE STABILIZED WITHIN 14 DAYS UNLESS ACTIVITY RESUMES WITHIN 21 DAYS. SEEDING AND/OR HYDROMULCH DOES NOT CONSTITUTE STABILIZATION, MINIMUM 70 PERCENT VEGETATIVE COVER OF DISTURBED AREAS IS REQUIRED.
7. ALL SIDEWALKS SHALL HAVE A MAX RUNNING SLOPE OF 5%.
8. ALL SIDEWALKS SHALL HAVE A MAX CROSS SLOPE OF 2%.
9. RAMPS SHALL NOT EXCEED 8.33%. RAMPS LONGER THAN 6' REQUIRE HANDRAILS. RAMPS LONGER THAT 30' REQUIRE A LEVEL LANDING.



END OF ROAD GRADING DETAIL

NOT TO SCALE

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

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TBPELS FIRM 1053600

STATE OF TEXAS
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131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

GRADING PLAN

NAVARRO SUBDIVISION UNIT 9

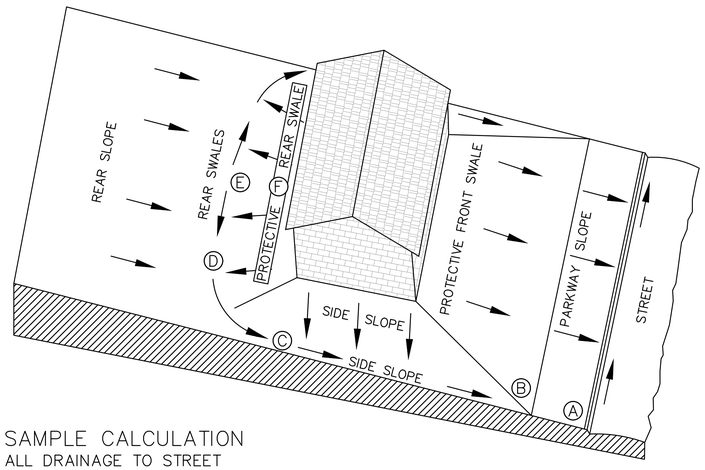
NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET

C3.0

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\02a\337.116_GRADING.dwg User: christianc Nov 20, 2025 - 12:03pm



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	
A	CURB–TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')
$\overline{CD}$	SWALE TURN WITH 10' RADIUS:16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{DE}$**	REAR SWALE: 13' GRASS AT 1/4"/FT. (2%)	3"	(0.3')	2"	(0.2')
$\overline{EF}$*	PROTECTIVE REAR SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AF}$ FROM CURB TOP TO GROUND AT REAL BLDG WALL		35"	(3.0')	20"	(1.7')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 35" + 8"		43"	(3.6')	28"	(2.3')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		54"	(4.5')	39"	(3.3')

CALCULATIONS FOR 2% SWALES

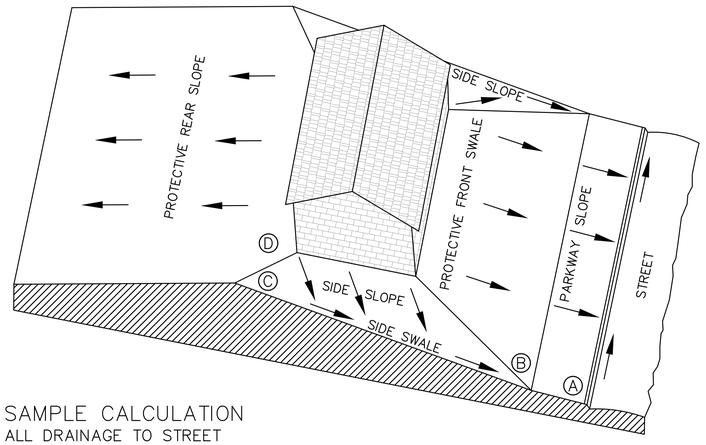
15 x 0.25' = 3¾"
85 x 0.25' = 21¼"
16 x 0.25' = 4"
13 x 0.25' = 3¼"
10 x 0.25' = 2½"
34¾"

CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

** LENGTH $\overline{DE}$ = [1/2(LOT WIDTH – (2x SWALE TURN RADIUS))] – [LOT WIDTH x (STREET GRADIENT x SWALE GRADIENT)]

LOT TYPE Ⓐ



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE AF FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 0.5% STREET, WITH 60' BUILDING DEPTH AND 2% SWALES.				RESULTS OF 1% SWALES	
A	CURB–TOP ON LOT LINE EXTENSION AT HIGH LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	SIDE SWALE: 85' GRASS AT 1/4"/FT. (2%)	21"	(1.8')	11"	(0.9')
$\overline{CD}$*	PROTECTIVE SIDE SLOPE @ REAR BLDG. WALL EXTENSION	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AD}$ FROM CURB TOP TO GROUND AT REAL BLDG WALL		27"	(2.4')	16"	(1.4')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: 27" + 8"		35"	(2.9')	24"	(2.0')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: 35" + 9"		46"	(3.8')	35"	(2.9')

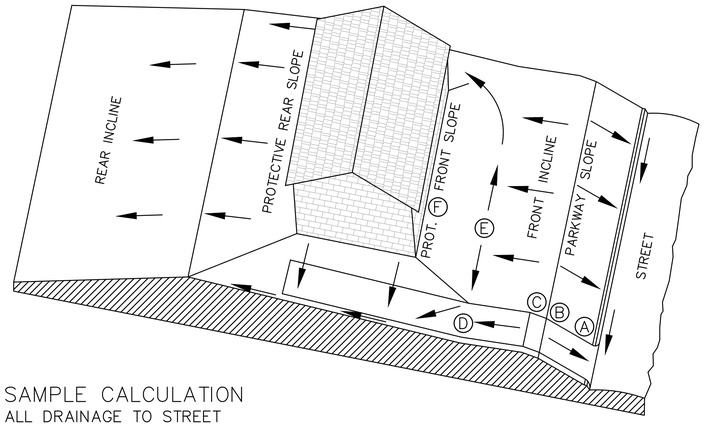
CALCULATIONS FOR 2% SWALES

15 x 0.25' = 3¾"
85 x 0.25' = 21¼"
6 x 0.25' = 1½"
26½"

CALCULATIONS USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

LOT TYPE Ⓑ



SAMPLE CALCULATION
ALL DRAINAGE TO STREET

SAMPLE COMPUTATION OF GRADING CONTROL LINE $\overline{AF}$ FOR A 60' WIDE LOT WITH A 25' BUILDING LINE, 13.5% DRIVEWAY, AND 16' FRONT SWALE $\overline{DE}$ AT 2.0%.				RESULTS OF 1% SWALES	
A	CURB–TOP HIGH SIDE OF DRIVE NEAR LOW LOT CORNER				
$\overline{AB}$	PARKWAY SLOPE: 15' GRASS AND WALK AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{BC}$	DRIVEWAY GRADE CHANGE: 4' VERTICAL CURVE FROM UP–GRADE DRIVE IN STREET TO DOWN–GRADE DRIVE ON LOT	0"	(0.0')	0"	(0.0')
$\overline{CD}$	DRIVEWAY DOWN–GRADE TO POINT 10 FEET OUT FROM FRONT OF BUILDING: –11' AT 1⅝"/FT (13.5%)	–18"	(–1.5')	–18"	(–1.5')
$\overline{DE}$	FRONT SWALE: 16' GRASS AT 1/4"/FT. (2%)	4"	(0.3')	2"	(0.2')
$\overline{EF}$*	PROT. FRONT SLOPE UP FROM HIGH POINT OF SWALES	3"	(0.3')	3"	(0.3')
SUB–TOTAL $\overline{AF}$ FROM CURB TOP TO GROUND AT FRONT BLDG WALL		–7"	(–1.0')	–11"	(1.3')
MINIMUM RISE FROM CURB TOP TO SLAB FLOOR: –7" + 8"		1"	(–0.3')	–3"	(0.7')
MINIMUM RISE FOR WOOD FLOOR USING 8" JOISTS: –7" + 19"		12"	(–0.6')	8"	(0.3')

CALCULATIONS FOR SWALES

15 x 0.25' = 3¾"
0 x 0.25' = 0"
–11 x 1.625' = –17⅞"
16 x 0.25' = 4"
10 x 0.25' = 2½"
–7½"

CALCULATION:

USE 0.25" PER FOOT GRADIENT FOR A 2% SWALE.

USE 1.625" PER FOOT GRADIENT FOR A 13.5% SWALE.

* WHERE THERE IS A HIGH BANK NEARBY OR A LONG SLOPE TOWARD HOUSE, A MINIMUM 6" PROTECTIVE SLOPE IS REQUIRED.

LOT TYPE Ⓒ

GENERAL SPECIFICATIONS FOR SITE PREPARATION

GENERAL DESCRIPTION
THIS ITEM SHALL CONSIST OF ALL CLEARING AND PREPARATION OF LAND TO BE FILLED, FILLING OF THE LAND, SPREADING, COMPACTION TESTING AND INSPECTION OF THE FILL, AND ALL SUBSIDIARY WORK NECESSARY TO COMPLETE THE GRADING OF THE CUT AND FILL AREAS TO CONFORM WITH THE LINES, GRADES AND SLOPES AS SHOWN ON THE APPROVED PLANS.

SCARIFYING THE AREA TO BE FILLED
ALL ORGANIC MATTER SHALL BE REMOVED FROM THE SURFACE UPON WHICH THE FILL IS TO BE PLACED, AND SURFACE SHALL BE DISKED OR SCARIFIED TO A MINIMUM DEPTH OF SIX INCHES (6"), ALL SURFACE RUTS OR OTHER UNEVEN FEATURES WILL BE LEVELED PRIOR TO FIELD DENSITY TESTING.

COMPACTING THE AREA TO BE FILLED
FOLLOWING THE CLEARING AND DISKING OR SCARIFYING OF THE FILL AREA, IT SHALL BE BLADED UNTIL IT IS UNIFORM AND FREE FROM LARGE CLODS. THE AREA SHALL BE BROUGHT TO ADEQUATE MOISTURE CONTENT AND COMPACTED (TYPICALLY) TO NOT LESS THAN NINETY PERCENT (90%) OF MAXIMUM DENSITY IN ACCORDANCE WITH THE CURRENT ASTM D 1557 COMPACTION PROCEDURE, OR 95% OF MAXIMUM DENSITY IN ACCORDANCE WITH THE THD–TEX–113–E COMPACTION PROCEDURE. ALL AREAS EXCEEDING (6") SIX INCHES IN DEPTH, MUST MEET WITH FHA/HUD HANDBOOK 4140.30 SPECIFICATIONS FOR LAND DEVELOPMENTS ON CONTROLLED EARTHWORK, DATASHEET 79G.

FILL MATERIALS
THE MATERIALS USED SHALL BE FREE FROM ORGANIC MATTER AND OTHER DELETERIOUS SUBSTANCES, SUCH AS TREES, BRUSH AND RUBBISH.

DEPTH AND MIXING OF FILL LAYERS

THE SELECTED FILL MATERIAL SHALL BE PLACED IN LEVEL, UNIFORM LAYERS WHICH, WHEN COMPACTED, SHALL HAVE A DENSITY CONFORMING TO THE STIPULATED ABOVE.
EACH LAYER SHALL BE THOROUGHLY MIXED DURING THE SPREADING TO ENSURE UNIFORMITY OF MATERIAL IN EACH LAYER. COMPACTED LAYER THICKNESS MAY VARY DEPENDING ON THE COMAPCTION EQUIPMENT OF THE DEMONSTRATED CAPABILITY.

ROCK
WHEN FILL MATERIAL INCLUDES ROCK, THE MAXIMUM ROCK SIZE SHALL BE AS APPROVED BY THE GEOTECHNICAL ENGINEER. NO LARGE ROCKS SHALL BE ALLOWED TO NEST AND ALL VOIDS MUST BE FILLED WITH SMALL STONES OR SOIL AND ADEQUATELY COMPACTED.

COMPACTION OF FILL LAYER
COMPACTION EQUIPMENT SHALL BE CAPABLE OF COMPACTING THE FILL TO THE SPECIFIED DENSITY. COMPACTION SHALL BE ACCOMPLISHED WHILE THE FILL MATERIAL IS AT OR NEAR THE APPROPRIATE MOISTURE CONTENT. COMPACTION OF EACH LAYER SHALL BE CONTINUOUS OVER THE ENTIRE STRUCTURAL AREA (BENEATH PROPOSED STRUCTURES).

COMPACTION OF SLOPES
THE FACES OF FILL SLOPES SHALL BE COMPACTED. COMPACTING OPERATIONS SHALL BE CONTINUED UNTIL THE SLOPE FACES ARE STABLE BUT NOT TO DENSE FOR PLANTING ON THE SLOPES. COMPACTION OF THE SLOPE FACE MAY BE DONE PROGRESSIVELY IN INCREMENTS OF THREE TO FIVE FEET (3' TO 5') IN FILL HEIGHT AS THIS FILL PROGRESSES OR AFTER THE FILL HAS BEEN BROUGHT TO ITS TOTAL HEIGHT.

DENSITY TEST
FIELD DENSITY TESTS SHALL BE PERFORMED ON ALL LAYERS OF FILL WHEN THE FILL IS BEING PLACED AS DIRECTED BY THE GEOTECHNICAL ENGINEER. THE MAXIMUM FILL HEIGHT BETWEEN DENSITY TESTING SHALL BE TWELVE INCHES (12"). ALL TESTING SHALL BE REQUESTED BY THE CONTRACTOR TO MEET THE CONTRACTOR'S CONSTRUCTION SCHEDULE. NOTIFICATION BY THE CONTRACTOR TO CONDUCT TESTS SHALL BE AT LEAST THE DAY BEFORE. THIS NOTIFICATION SHALL INCLUDE THE FILL AREA LOCATION (LOT AND BLOCK), THE LIFT OR HEIGHT OF FILL AND APPROXIMATED DESIRED TIME OF TESTING. WHEN THESE TEST INDICATE THAT THE DENSITY OF ANY LAYER OF FILL OR PORTION THEREOF IS BELOW THE REQUIRED DENSITY, THE PARTICULAR LAYER OR PORTION SHALL BE REWORKED AND RETESTED AT THE EXPENSE OF THE CONTRACTOR UNLESS THE CONTRACTOR CAN SHOW EVIDENCE THAT CIRCUMSTANCES BEYOND HIS CONTROL REQUIRED THE RETESTING. GENERALLY, THE SPECIFIC TESTING WILL BE AS FOLLOWS AND CONDUCTED BY A GEO–TECHNICAL ENGINEER OR STAFF.

1. THE LAND TO BE FILLED (PREPARED SUBGRADE) SHALL BE PREPARED AND TESTED AT A FREQUENCY AS DETERMINED BY THE GEOTECHNICAL ENGINEER.
2. THE FIRST LIFT OF COMPACTED FILL (GENERALLY 8–12 IN.) SHALL BE TESTED AS DETERMINED BY THE GEOTECHNICAL ENGINEER. ANY AREAS SUPPORTING THE PROPOSED STRUCTURES REQUIRING FILL SHALL BE TESTED FOR DENSITY COMPLIANCE.
3. FILLS SHALL BE TESTED AT A MAXIMUM OF EACH TWELVE INCHES (12") OF FILL.
4. TEST RESULTS WILL BE PROVIDED BY THE FIELD TECHNICIAN TO THE CONTRACTOR WHEN POSSIBLE: HOWEVER, ALL TEST RESULTS ARE TO BE REVIEWED BY THE GEOTECHNICAL ENGINEER FOR COMPLIANCE. THE ENGINEER WILL NOTIFY THE CONTRACTOR OF ALL TEST RESULTS.

CUT/FILL LOTS
AREAS INVOLVING CUT ON THE PORTION AND FILL ON ANOTHER PORTION OF A SPECIFIC LOT SHALL BE PREPARED TO A MINIMUM DEPTH OF 6 IN., AND WILL BE THE SAME MATERIAL CLASSIFICATION AT THE SAME COMPACTION AND MOISTURE CONTENT. FIELD DENSITY TESTS SHALL BE REQUIRED ON EACH CUT/FILL LOT FOR THE PURPOSE OF DETERMINING UNIFORMITY OF THE AREA SUPPORTING THE PROPOSED STRUCTURES.
HUD 79–G
HUD 79–G REQUIREMENT FOR FILL MATERIAL OF 6 INCHES AND MORE WILL BE CONDUCTED. ALL CUT AREAS WILL ALSO MEET THE REQUIREMENTS FOR HUD 79–G COMPACTION TESTING. IN ADDITION, ENGINEERS MUST PROVIDE VERIFICATION OF ALL AREAS WHICH DO NOT REQUIRE HUD 79–G. AFTER SITE GRADING IS COMPLETED, GEO–TECHNICAL ENGINEER SHALL PROVIDE THE CONTRACTOR AND OWNER A 79–G LETTER.

DRAINAGE NOTE
FINISHED FLOOR ELEVATIONS
THE ELEVATION OF THE LOWEST FLOOR SHALL BE AT LEAST 10 INCHES ABOVE THE FINISHED GRADE OF THE SURROUNDING GROUND, WHICH SHALL BE SLOPED IN A FASHION SO AS TO DIRECT STORMWATER AWAY FROM THE STRUCTURE. PROPERTIES ADJACENT TO STORMWATER CONVEYANCE STRUCTURES MUST HAVE FLOOR SLAB ELEVATION OR BOTTOM OF FLOOR JOISTS A MINIMUM OF ONE FOOT ABOVE THE 100–YEAR WATER FLOW ELEVATION IN THE STRUCTURE. DRIVEWAYS SERVING HOUSES ON THE DOWNHILL SIDE OF THE STREET SHALL HAVE A PROPERLY SIZED CROSS SWALE PREVENTING RUNOFF FROM ENTERING THE GARAGE.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

GRADING DETAILS

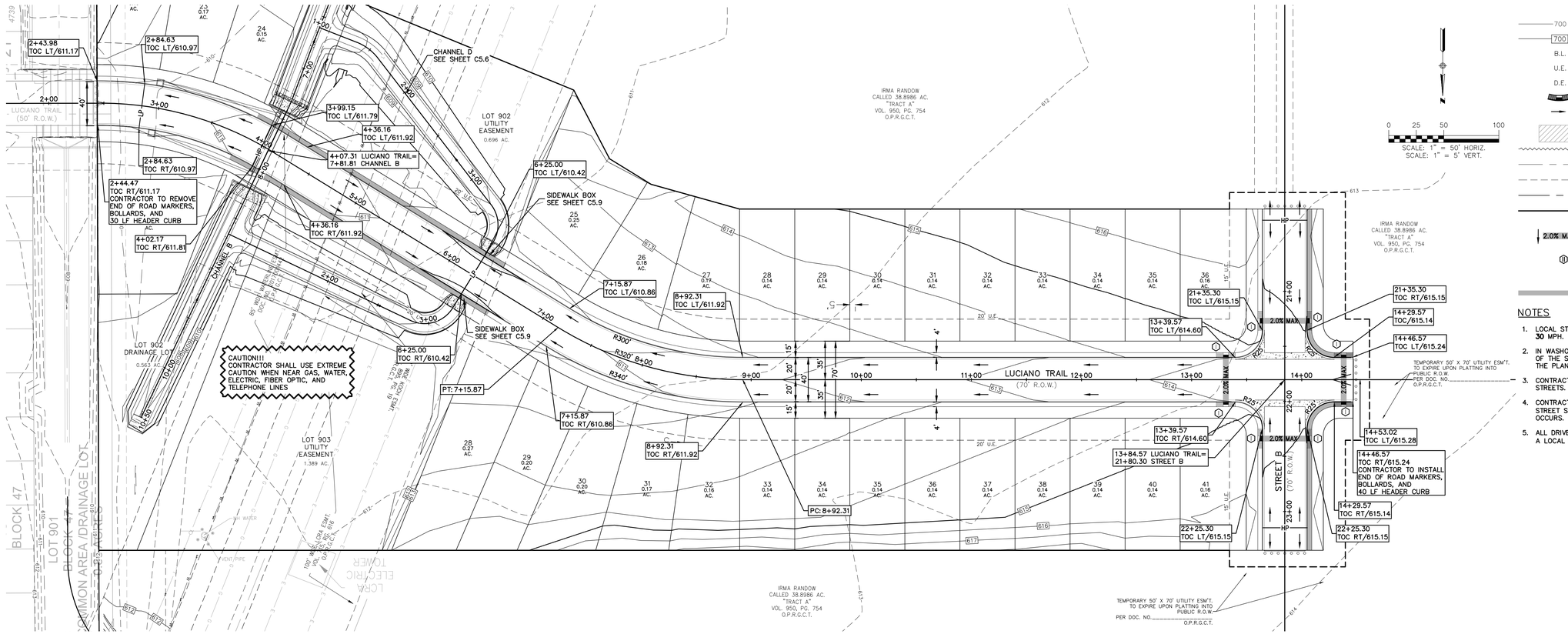
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C3.1

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_GRAD DETAILS.dwg User: christianc Nov 20, 2025 - 12:03pm



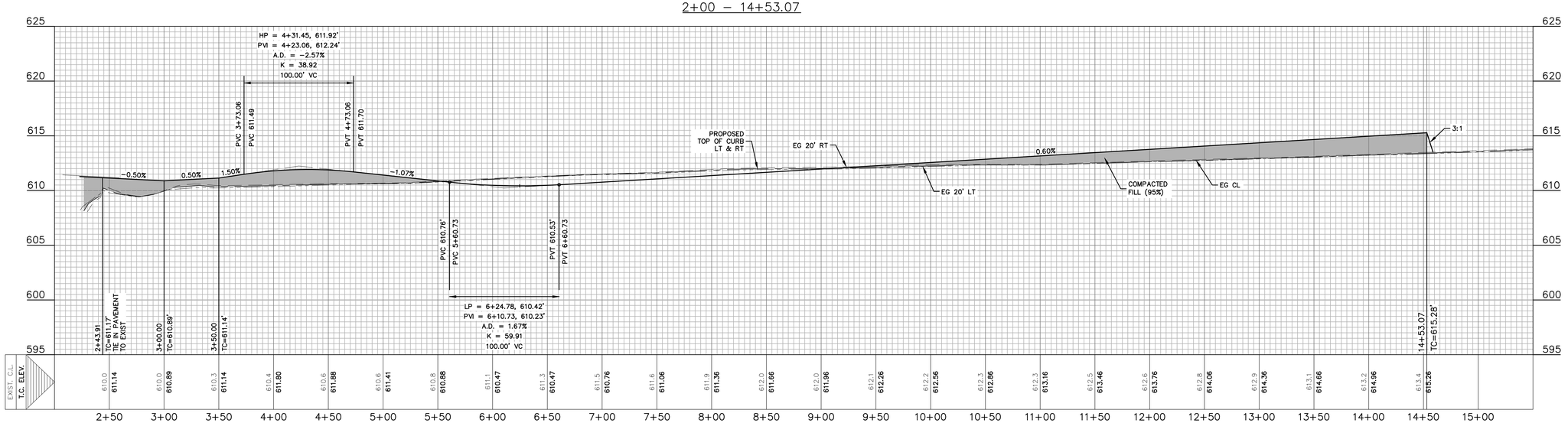
LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
- EXISTING GROUND CENTER (EG CTR)
- PROPOSED TOP OF CURB (PR TC)
- 2.0% MAX — ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.5**)
- SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

1. LOCAL STREETS WERE DESIGNED TO POSTED SPEED LIMIT OF **30** MPH.
2. IN WASHOUT CROWN AREAS, THE CURB ON THE HIGH SIDE OF THE STREET SHOULD BE SPILL CURB AS DESIGNATED ON THE PLANS.
3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'.

LUCIANO TRAIL
2+00 – 14+53.07



THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS — ZOE F. JASSO — 131964 — LICENSED PROFESSIONAL ENGINEER — 11/20/2025

LUCIANO TRAIL
PLAN & PROFILE

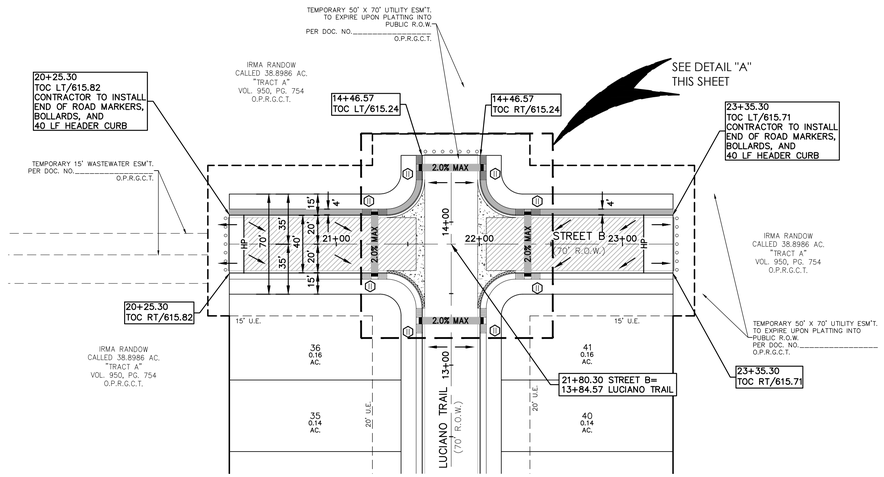
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

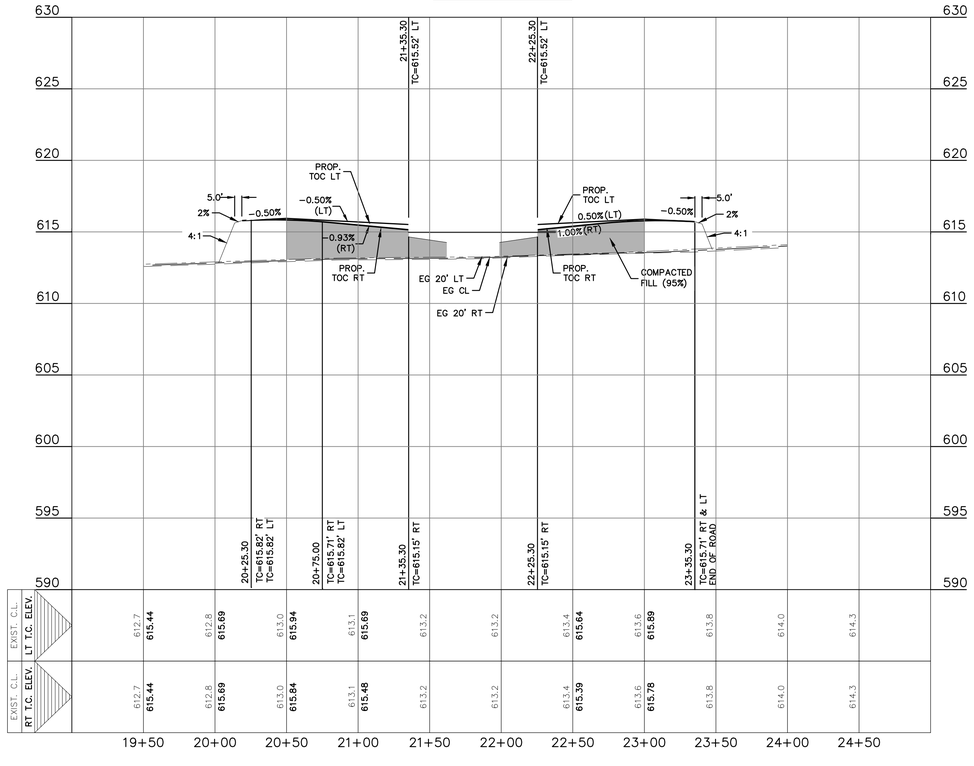
DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

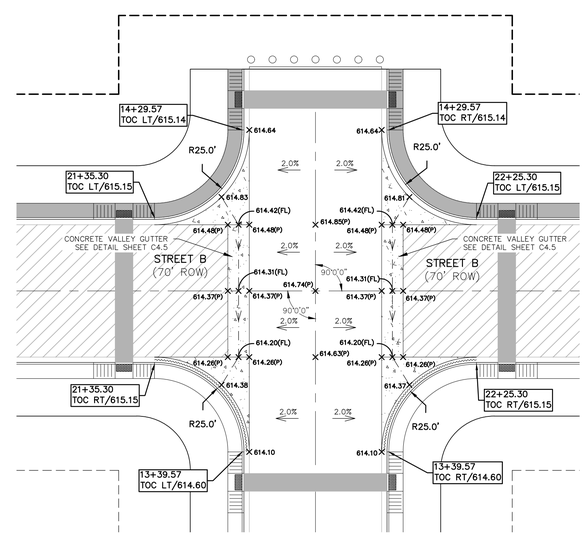
SHEET
C4.0

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_LUCIANO TRAIL.dwg User: chrisbone Nov 20, 2025 - 12:03pm



STREET B
19+00 – 25+00





DETAIL "A"
SCALE: 1" = 20'

0 25 50 100
SCALE: 1" = 50' HORIZ.
SCALE: 1" = 5' VERT.

LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
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- EXISTING GROUND LEFT (EG LT)
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- PROPOSED TOP OF CURB (PR TC)
- 2.0% MAX — ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.5**)
- SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

NOTES

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3. CONTRACTOR TO CONSTRUCT SIDEWALK RAMPS WITH STREETS.
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5. ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

STREET B PLAN & PROFILE

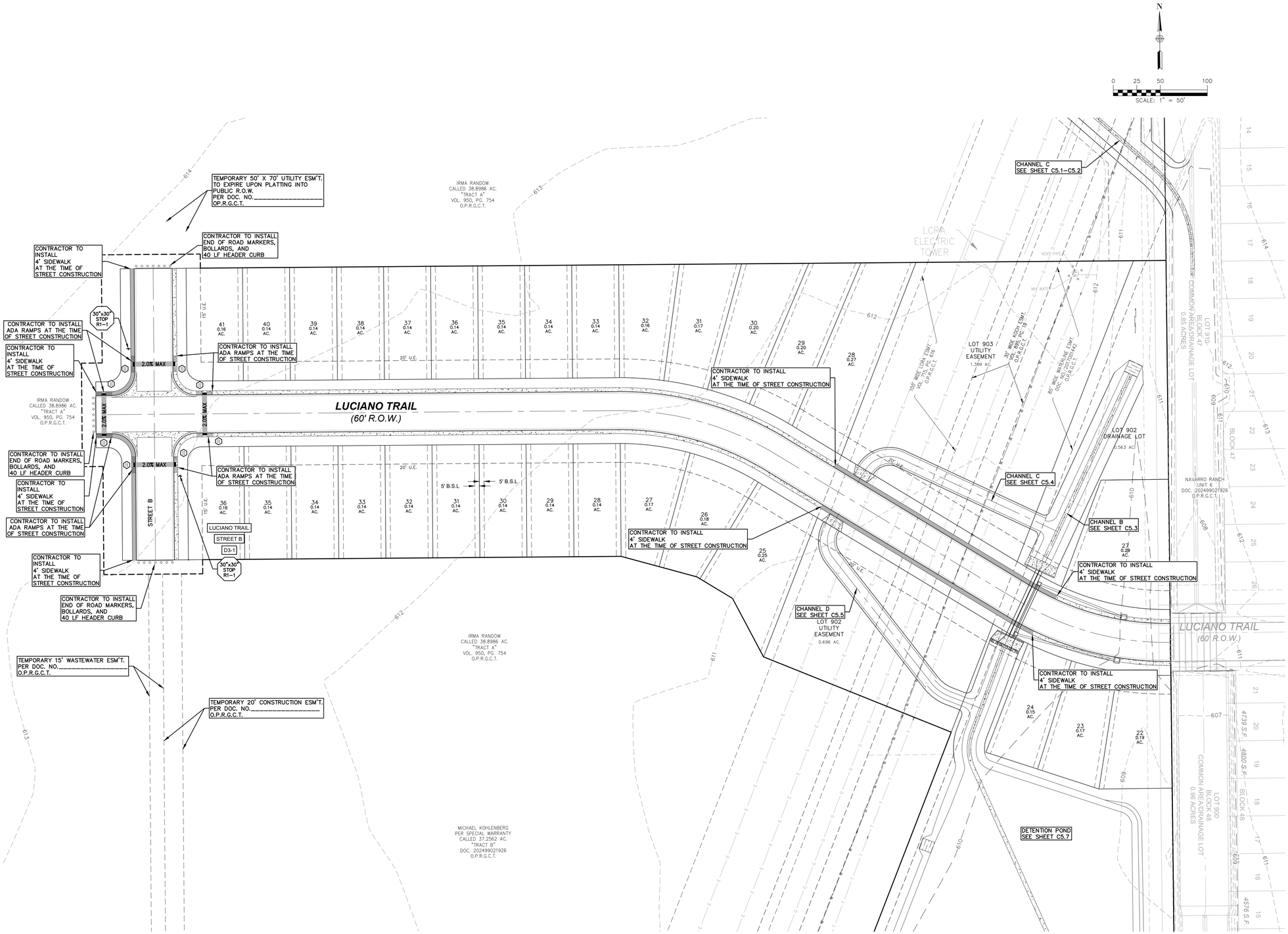
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C4.1

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Dsh\337.116_STREET B.dwg User: christianc Nov 20, 2025 - 12:03pm



NOTES

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4. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM STREET STUB OUT ENDS SO THAT NO "PONDING" OF WATER OCCURS.
5. PER NEW BRAUNFELS ORDINANCE SEC. 114–98(a)(6) ALL DRIVEWAY LOCATED ON A SINGLE FAMILY RESIDENCE ON A LOCAL STREET SHALL HAVE A MINIMUM SPACING OF 20'

SIGNAGE NOTES

INSTALLATION

THE CONTRACTOR SHALL FURNISH AND INSTALL ALL REGULATORY, WARNING AND STREET NAME SIGNS AND SIGN MOUNTS IN ACCORDANCE WITH APPROVED ENGINEERING PLANS.

MOUNTING

THE WEDGE ANCHOR STEEL SYSTEM AND THIN-WALLED TUBING POST SHALL BE USED FOR SIGNS WITH UP TO 10 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) TRAFFIC STANDARDS SMD (GEN) – 08 AND SMD (TWT) – 08.

THE TRIANGULAR SLIP BASE SYSTEM AND 10 BWG TUBING POST SHALL BE USED FOR SIGNS THAT HAVE 10 TO 16 SQUARE FEET OF SIGN AREA. MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS SMD (GEN) – 08 AND SMD (SLIP–1–3)– 08.

OBJECT MARKERS MATERIALS AND INSTALLATION SHOULD FOLLOW THE TXDOT TRAFFIC STANDARDS D & OM (1 – 5) – 10.

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11/20/2025

SIGNAGE PLAN

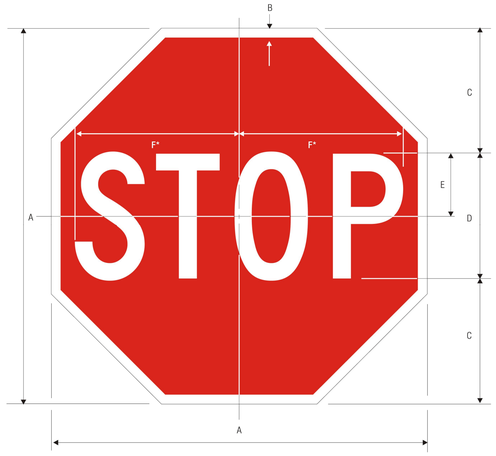
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C4.2

Drawing Name: M:_Projects\337 – Lennar Homes\116 – Navarro Ranch Addition – Unit 1\CDs\337-116_SIGNAGE.dwg User: christianc Nov 20, 2025 - 12:03pm



R1-1
STOP

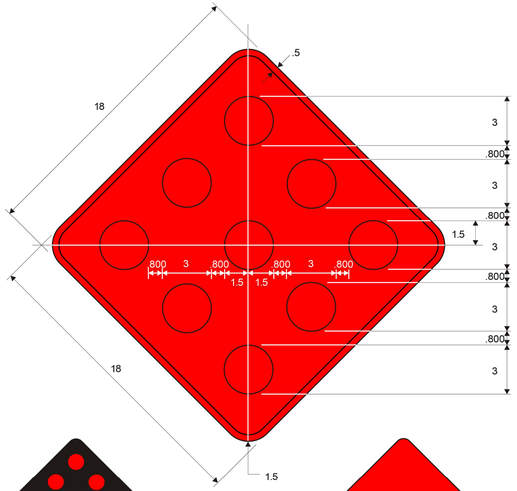
*Reduce spacing 40%

	A	B	C	D	E	F
	18	.375	6	6 C	3	7.75
	24	.625	8	8 C	4	10
C	30	.75	10	10 C	5	12.5
	36	.875	12	12 C	6	15
	48	1.25	16	16 C	8	20

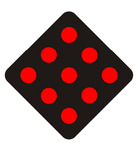
COLORS: LEGEND — WHITE (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

1-1

Standard Highway Sign Designs for Texas

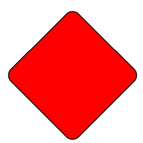


OM4-1



OM4-2

OM4-1 COLORS:
REFLECTORS — RED (RETRO)
BACKGROUND — RED
BORDER — RED (RETRO)

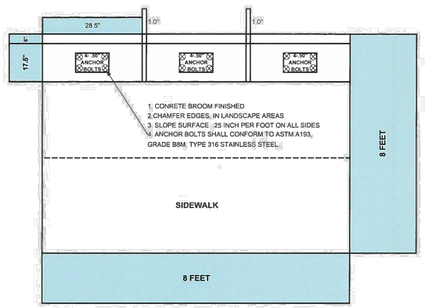


OM4-3

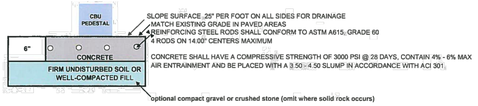
OM4-2 COLORS:
REFLECTORS — RED
BACKGROUND — BLACK

OM4-3 COLORS:
SIGN PANEL — RED

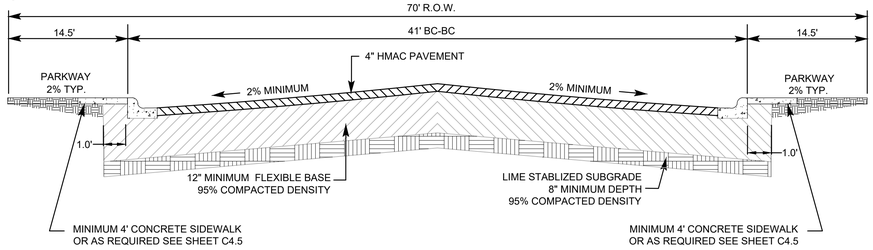
UNITED STATES POSTAL SERVICE



1 CBU 8' DEEP X 4' WIDE TO INCLUDE SIDEWALK
2 CBU'S 8' DEEP X 6' WIDE TO INCLUDE SIDEWALK
3 CBU'S 8' DEEP X 8' WIDE TO INCLUDE SIDEWALK
4 CBU'S 8' DEEP X 11' WIDE TO INCLUDE SIDEWALK

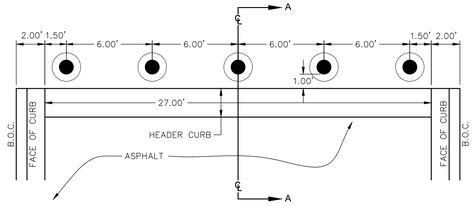


FLEXIBLE PAVEMENTS	COLLECTOR
PAVEMENT MATERIAL	
TYPE "D" HMAC	4"
IMPORT FLEXIBLE BASE	12"
LIME STABALIZED SUBGRADE (MIN. 5% LIME)	8"



COLLECTOR STREET PAVEMENT SECTION (70' R-O-W)

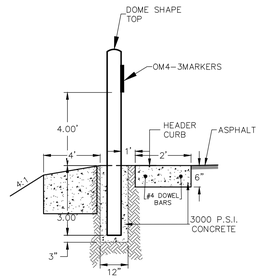
(LUCIANO TRAIL & STREET B) NOT TO SCALE



NOTE:
POST SHALL BE 6" IN DIAMETER AND PRESSURE TREATED

POST SHALL BE CENTERED AND EQUALLY SPACED AT 6' ON CENTER (MIN.)

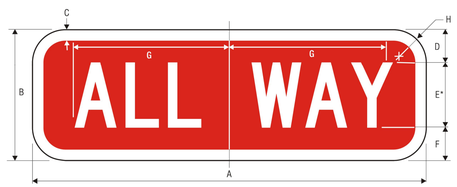
PLAN



SECTION A-A

BOLLARD DETAIL

NOT TO SCALE



R1-4
ALL WAY

*Series 2000 Standard Alphabets.

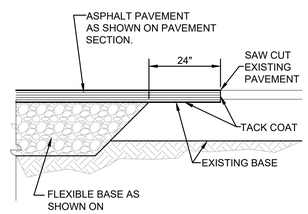
	A	B	C	D	E	F	G	H
C	18	6	.5	1.5	3 C	1.5	7	1.5
	24	9	.5	2	5 C	2	11	1.5
	30	12	.75	3	6 C	3	13.25	1.875
	36	15	.75	4	7 C	4	15.771	2.25
	48	18	1	4.5	9 C	4.5	20.415	3

COLORS: LEGEND — WHITE (RETROREFLECTIVE)
BACKGROUND — RED (RETROREFLECTIVE)

1-5

NOTE:

1. ALL PAVEMENT CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE TO THE "SUBSURFACE EXPLORATION AND PAVEMENT ANALYSIS, PROPOSED NEW STREETS, NAVARRO RANCH WEST UNIT 9 ", BY PSI , DATED JUNE 28TH, 2024 .
2. ALL PAVEMENT SECTIONS SHOWN ON THE ABOVE TABLE SHALL SUPERCEDE ANY STANDARD DETAILS WITH RESPECT TO DEPTH OF MATERIALS ASSOCIATED WITH THIS PROJECT.
3. THE SUBGRADE SHOULD BE STABILIZED USING LIME IN ACCORDANCE WITH THE GEOTECHNICAL REPORT IN ORDER TO ACHIEVE THE FOLLOWING:
   3.1. PLASTICITY INDEX OF 25 OR LESS
   3.2. PH OF 12.4 OR GREATER
4. THE SUBGRADE SOILS SHOULD BE TESTED BY AN AASHTO ACCREDITED 3RD PARTY LABORATORY WITH QUALIFIED PROFESSIONAL ENGINEERS WHO SPECIALIZE IN GEOTECHNICAL ENGINEERING BE RETAINED TO PROVIDE OBSERVATION AND TESTING OF CONSTRUCTION ACTIVITIES INVOLVED IN THE FOUNDATIONS, EARTHWORK, PAVEMENTS AND RELATED ACTIVITIES OF THIS PROJECT TO PROVIDE FOR SOLUBLE SULPHATE CONTENT PRIOR TO INSTALLATION OF THE LIME OR CEMENT.
5. REFERENCE GEOTECHNICAL REPORT FOR LIME STABILIZATION NOTES
6. CONTRACTOR SHALL BE RESPONSIBLE TO ATTAIN A COPY OF THE GEOTECH REPORT AND THE CONTENTS OF THE REPORT.



NEW PAVEMENT TO EXISTING

NOT TO SCALE

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

STREET DETAILS (1 OF 3)

NAVARRO SUBDIVISION UNIT 9

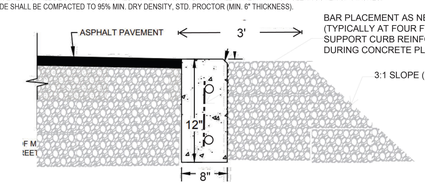
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

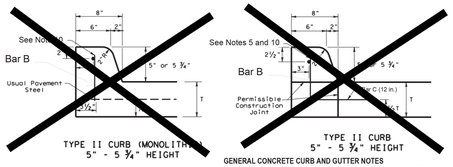
SHEET
C4.3

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_STREET DETAILS.dwg User: christianc Nov 20, 2025 - 12:04pm

GENERAL CONCRETE RIBBON CURB NOTES
1. CONCRETE COMPRESSIBLE STRENGTH SHALL BE 3,000 PSI MINIMUM STRENGTH AT 28 DAYS.
2. REINFORCEMENT SHALL BE CONTINUOUS #3 REBAR. REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 3 INCHES.
3. SUBGRADE SHALL BE COMPACTED TO 95% MIN. DRY DENSITY, STD. PROCTOR (MIN. 6" THICKNESS).

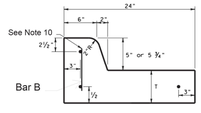


CONCRETE RIBBON CURB DETAIL



TYPE II CURB (MONOLITHIC)
5" - 5 ¾" HEIGHT

TYPE II CURB
5" - 5 ¾" HEIGHT



TYPE II CURB AND GUTTER
5" - 5 ¾" HEIGHT

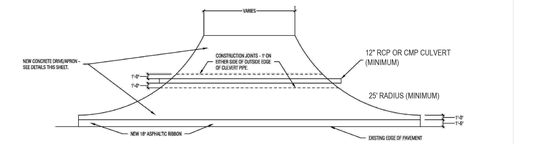
GENERAL CONCRETE CURB AND GUTTER NOTES
1. REFERENCE TXDOT CONCRETE CURB AND CURB AND GUTTER DETAIL (CCGG-22).
2. REINFORCEMENT SHALL BE NO. 4 BARS.
3. ROUND EXPOSED SHARP EDGES WITH A ROUNDING TOOL, TO A MINIMUM RADIUS OF 1/4 INCH.
4. ALL EXISTING CURBS AND DRIVEWAYS TO BE REMOVED SHALL BE SAWED OR REMOVED AT EXISTING JOINTS.
5. WHERE CONCRETE CURB IS TO BE PLACED ON EXISTING CONCRETE PAVEMENT, BAR B MAY BE DRILLED AND GROUTED IN PLACE, OR MAY BE INSERTED INTO FRESH CONCRETE.
6. EXPANSION AND CONTRACTION JOINTS SHALL BE CONSTRUCTED TO MATCH PAVEMENT JOINTS IN ALL CURBS AND CURB AND GUTTER ADJACENT TO JOINTED CONCRETE PAVEMENT. WHERE PLACEMENT OF CURB OR CURB AND GUTTER IS NOT ADJACENT TO CONCRETE PAVEMENT, EXPANSION JOINTS SHALL BE PROVIDED AT STRUCTURES, CURB RETURNS AT STREETS, AND AT LOCATIONS DIRECTED BY THE ENGINEER.
7. VERTICAL AND HORIZONTAL DOWEL BARS AND TRANSVERSE REINFORCING BARS SHALL BE PLACED AT FOUR FEET C-C.
8. DIMENSION 'T' SHOWN IS THE THICKNESS OF CONCRETE PAVEMENT AND IS 7 INCHES.
9. ONE-HALF INCH EXPANSION JOINT MATERIAL SHALL BE PROVIDED WHERE CURB OR CURB AND GUTTER IS ADJACENT TO SIDEWALK OR RIPRAP.
10. BAR B PLACEMENT AS NEEDED (TYPICALLY AT FOUR FT C-C) TO SUPPORT CURB REINFORCING STEEL DURING CONCRETE PLACEMENT.

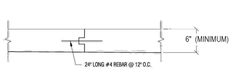
CONCRETE CURB AND GUTTER DETAIL

CONCRETE CURB DETAILS

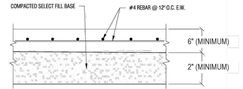
GUADALUPE COUNTY STANDARD DETAILS

SCALE: N.T.S. | DATE: 8/28/2025
DSGN. BY: ENG. | DRAWN BY: JHL | SHEET NO.: 1





CONSTRUCTION JOINT (IF NEEDED) (NTS)



TYPICAL SECTION (NTS)

TYPE	WIDTH		CONCRETE THICKNESS	DRIVEWAY BASE
	MIN	MAX		
RESIDENTIAL	10'	24'		
COMMERCIAL	24'	40'	6"	2" (MIN.) GRAVEL, CRUSHED ROCK OR FLEX BASE

GENERAL NOTES
1. SAWCUT (IF REQUIRED) AND EXCAVATION OF DRIVEWAY AREA WILL NOT BEGIN WITHOUT ALL MATERIALS IN PLACE TO COMPLETE THE WORK WITHIN ONE BUSINESS DAY. EXCAVATION LEFT OPEN ADJACENT TO THE COUNTY ROAD WILL NOT BE ALLOWED.
2. SAWCUT INTO EXISTING COUNTY ROAD IS NOT PERMITTED.
3. WELDED WIRE MESH OF EQUAL OR GREATER EQUIVALENT CROSS SECTIONAL AREA MAY BE PERMITTED WITH GUADALUPE COUNTY APPROVAL.

CONCRETE DRIVEWAY DETAIL

GUADALUPE COUNTY STANDARD DETAILS

SCALE: N.T.S. | DATE: 8/28/2025
DSGN. BY: ENG. | DRAWN BY: JHL | SHEET NO.: 1 OF 2

SITE PREPARATION AND DRAINAGE
1. AT A MINIMUM, WHERE SITE SURFACE SOILS CONSIST OF CLAY OR CLAYEY MATERIALS, A MINIMUM OF 6 INCHES OF SURFACE SOILS SHALL BE EXCAVATED. IN THE CASE OF HEAVY BLACK OR BROWN CLAYS, THE MINIMUM DEPTH OF SOILS REMOVAL IS RECOMMENDED AT 8 INCHES. PROOF ROLLING, SOILS CONSOLIDATION, AND COMPACTING ARE RECOMMENDED. IN THE ABSENCE OF ANY GEOTECHNICAL REPORT, SELECT STRUCTURAL FILLS ARE TO BE PROVIDED AT THE LOCATION OF THE DRIVEWAY FOUNDATION. A MINIMUM DEPTH OF FILL MATERIAL SHALL BE SPECIFIED IN THE GEOTECHNICAL REPORT, OR EQUAL TO THE DEPTH OF SURFACE SOILS EXCAVATION, THEREAFTER. ADDITIONAL FILL MATERIAL SHALL BE PROVIDED TO FORM A STRUCTURAL BASED AT THE GREATER OF A MINIMUM OF 12 INCHES IN HEIGHT, OR AS REQUIRED FOR PROPER FOUNDATION EXPOSURE. THE STRUCTURAL FILLS SHALL CONSIST OF TYPE A CRUSHED LIMESTONE, OR TYPE B CLAYEY CRUSHED GRAVEL, IN ACCORDANCE WITH TXDOT SPECIFICATION ITEM 247 FOR GRADE 1 FILL MATERIALS. STRUCTURAL FILL SHALL BE PLACED IN LIFTS OF 8 INCHES, AND COMPACTED ACCORDANCE WITH TXDOT SPECIFICATION TEX-113-E, WITH MOISTURE CONTENT CONTROLLED TO CONFORM TO TXDOT SPECIFICATION ITEM 204 "SPRINKLING".

2. TREES WITH A DISTANCE TO THE SLAB OF ONE TIMES THE MATURE TREE HEIGHT MAY DAMAGE THE FOUNDATION. TREE REMOVAL SHALL BE REQUIRED AT THE DIRECTION OF THE COUNTY ROAD ADMINISTRATOR.

3. VOIDS (HOLES) CREATED AS A RESULT OF DEMOLITION AND REMOVAL OF EXISTING STRUCTURES, TREES, AND OTHER EXISTING OBJECTS SHALL BE FILLED WITH WELL COMPACTED SELECT FILL MATERIAL.

4. SITE SURFACE DRAINAGE DURING CONSTRUCTION SHALL BE CONTROLLED BY PROVIDING POSITIVE DRAINAGE AWAY FROM THE DRIVEWAY SLAB. THE APPLICANT IS RESPONSIBLE FOR THE INSTALLATION OF BERMS OR SWALES ON THE UPHILL SIDE OF THE CONSTRUCTION AREA TO DIVERT SURFACE RUNOFF AWAY FROM THE SLAB DURING CONSTRUCTION.

FOUNDATION CONSTRUCTION
1. FILL MATERIAL PLACED BENEATH THE SLAB SHALL BE WELL GRADED GRANULAR LOW PLASTICITY SELECT FILL MATERIAL HAVING A PI OF 5 TO 20 WITH A LIQUID LIMIT NOT EXCEEDING 40 PERCENT. THE FILL MATERIAL SHALL BE FREE OF ORGANICS, TRASH, RUBBLE, OR OTHER DELETERIOUS MATERIALS AND SHALL HAVE NO PARTICLE SIZE GREATER THAN 3 INCHES IN DIAMETER. CRUSHED LIMESTONE OR CRUSHED AND UNCRUSHED GRAVEL FMATERIAL MEETING THE REQUIREMENTS OF TXDOT ITEM 247, TYPE A OR B, GRADE 1 OR 2 IS REQUIRED.

2. SLAB FILL MATERIAL SHALL BE A MINIMUM OF 12 INCHES THICK BENEATH ALL SLAB AREAS AND PLACED TO FINISH GRADE ELEVATION EQUAL TO THE GRADE ELEVATION AT THE BOTTOM OF THE SLAB. THE SLAB FILL MATERIAL SHALL BE PLACED IN 6 INCH LIFTS AND MACHINE TAMPED TO REDUCE FILL SETTLEMENT.

3. ALL CONCRETE SHALL BE PLACED IN ACCORDANCE WITH ACI 302.1R.

4. PROPER CURING OF ALL CONCRETE SURFACES SHALL BE PROVIDED BY THE APPLICANT AND IN ACCORDANCE WITH THE LATEST EDITION OF ACI 308.

5. DO NOT PLACE CONCRETE WHEN TEMPERATURE IS BELOW 40 DEGREES FAHRENHEIT UNLESS COLD WEATHER CONCRETE PROCEDURES ARE FOLLOWED. CALCIUM CHLORIDE SHALL NOT BE USED. PROVIDE SPECIAL CARE TO PREVENT HIGH TEMPERATURES DURING HOT WEATHER CONDITIONS IN FRESH CONCRETE. USE WATER REDUCING SET RETARDING ADMIXTURES IN SUCH QUANTITIES AS SPECIFICALLY RECOMMENDED BY THE MANUFACTURER TO ASSURE THE CONCRETE REMAINS WORKABLE.

6. NO HORIZONTAL JOINTS WILL BE PERMITTED IN THE CONCRETE EXCEPT AS NOTED.

CONCRETE AND REINFORCING STEEL
1. ALL CONCRETE AND REINFORCING STEEL SHALL MEET THE LATEST EDITION OF ASTM A615 AND ACI 117 "STANDARD TOLERANCES FOR CONCRETE CONSTRUCTION AND MATERIALS".

2. TESTING SHALL BE THE SOLE RESPONSIBILITY OF THE APPLICANT.

3. CONCRETE COMPRESSIBLE STRENGTH SHALL BE 4,000 PSI MINIMUM STRENGTH AT 28 DAYS.

4. CEMENT SHALL BE TYPE 1 (GRAY) PORTLAND. MAXIMUM WATER CEMENT RATIO SHALL BE 0.5 AND A SLUMP RANGE OF 2 TO 5 INCHES. THE APPLICANT SHALL SATISFY FOR THEMSELVES THAT THE MIX DESIGN IS ACCEPTABLE FOR ITS INTENDED PURPOSE.

5. REINFORCING STEEL SHALL MEET LATEST EDITION OF A-615, GRADE 60 DEFORMED BARS.

6. ALL REINFORCEMENT SHALL BE SECURELY SUPPORTED AT 48 INCHES ON CENTER TO PREVENT VERTICAL AND HORIZONTAL MOVEMENT DURING THE PLACEMENT OF CONCRETE. METAL, PLASTIC, CONCRETE, OR MASONRY CHAIRS MAY BE USED TO SUPPORT REINFORCEMENT. SLAB REINFORCEMENT SHALL BE CENTERED IN CONCRETE SLAB THICKNESS.

7. SLAB REINFORCING BARS SHALL BE TIED AT EVERY OTHER INTERSECTION AND SUPPORTED AT 48 INCHES ON CENTER WITH METAL, PLASTIC, CONCRETE, OR MASONRY CHAIRS. WOOD OR OTHER ORGANIC MATERIAL IS PROHIBITED. EVERY STIRRUP BAR SHALL BE TIED AT BOTH TOP AND BOTTOM BEAM REINFORCING BAR LOCATION. STIRRUPS ARE TO INSTALLED VERTICALLY. ANGLED STIRRUPS ARE NOT PERMITTED.

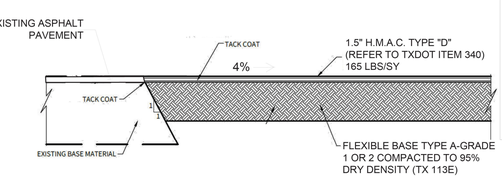
8. ALL BEAM REINFORCING BARS SHALL HAVE A MINIMUM CLEAR COVER OF 3 INCHES FROM THE BOTTOM OF THE BEAM AND 2 INCHES FROM THE TOP AND SIDES OF THE BEAM.

9. REINFORCING STEEL LAPS AND SPLICES SHALL BE A MINIMUM OF 30 BAR DIAMETERS, BUT NO LESS THAN 12 INCHES, SPLICES OF THE TOP AND BOTTOM BEAM REINFORCEMENT SHALL BE PER TXDOT SPECIFICATION ITEM 440, TABLE 6.

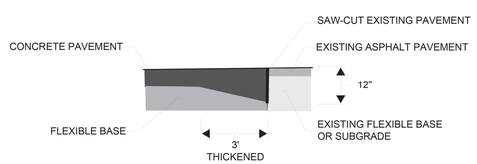
CONCRETE DRIVEWAY DETAIL NOTES

GUADALUPE COUNTY STANDARD DETAILS

SCALE: N.T.S. | DATE: 8/28/2025
DSGN. BY: ENG. | DRAWN BY: JHL | SHEET NO.: 2 OF 2



ROADWAY WIDENING DETAIL



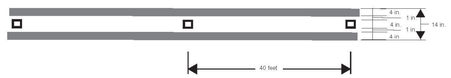
CONCRETE TO ASPHALT PAVEMENT JUNCTION DETAIL

CONCRETE/ASPHALT PAVEMENT JUNCTION DETAIL NOTES
1. CONCRETE PAVEMENT SHALL BE JOINTED REINFORCED CONCRETE PAVEMENT (JRCP) ONLY.

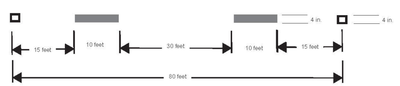
MISCELLANEOUS DETAILS

GUADALUPE COUNTY STANDARD DETAILS

SCALE: N.T.S. | DATE: 8/28/2025
DSGN. BY: ENG. | DRAWN BY: JHL | SHEET NO.: 1



CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS
NO PASSING ZONE

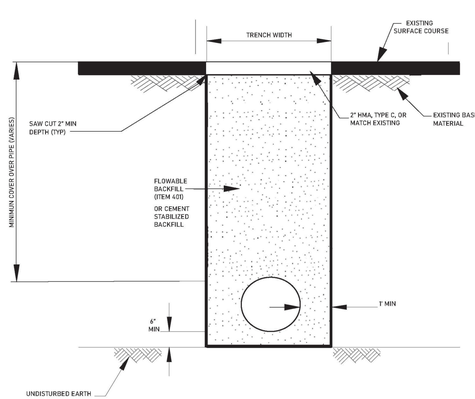


CENTERLINE FOR ALL TWO LANE TWO-WAY ROADWAYS
REFLECTIVE RAISED PAVEMENT MARKERS GUIDANCE

STRIPING DETAIL

GUADALUPE COUNTY STANDARD DETAILS

SCALE: N.T.S. | DATE: 8/28/2025
DSGN. BY: ENG. | DRAWN BY: JHL | SHEET NO.: 1



TRENCH BACKFILL WITH PAVED SURFACE DETAIL

- Note: Open cut trenching of county roads is prohibited except in limited circumstances to be approved by Guadalupe County prior to construction.

TRENCH DETAIL

GUADALUPE COUNTY STANDARD DETAILS

SCALE: N.T.S. | DATE: 8/28/2025
DSGN. BY: ENG. | DRAWN BY: JHL | SHEET NO.: 1

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

STREET DETAILS (2 OF 3)

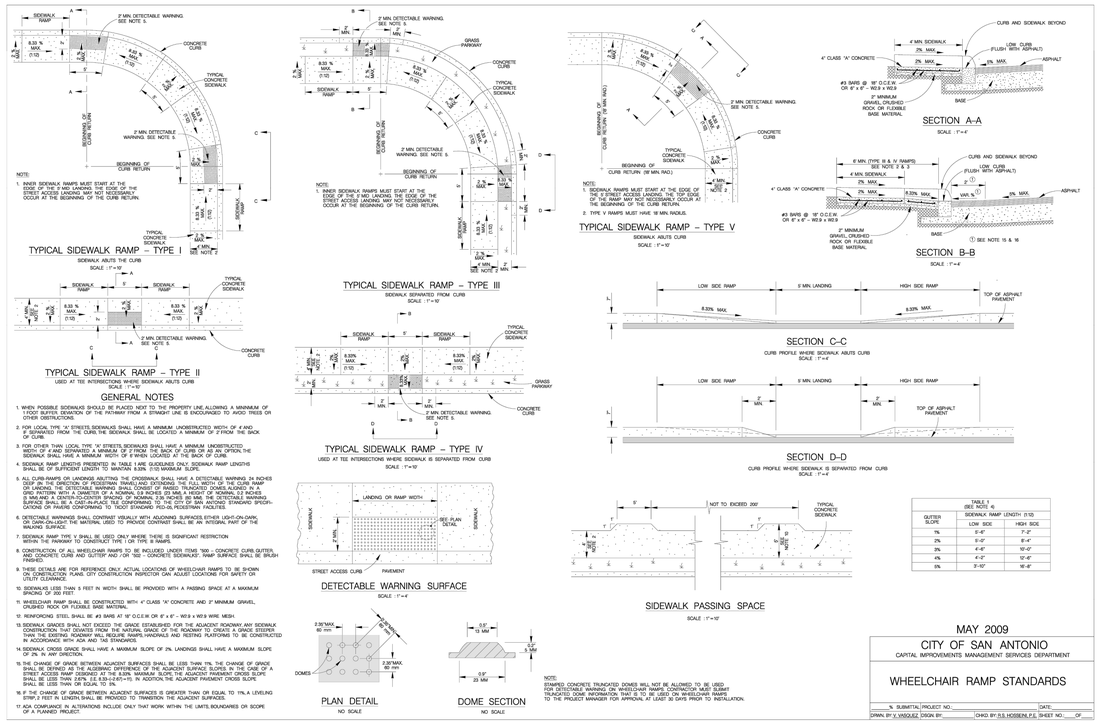
NAVARRO SUBDIVISION UNIT 9

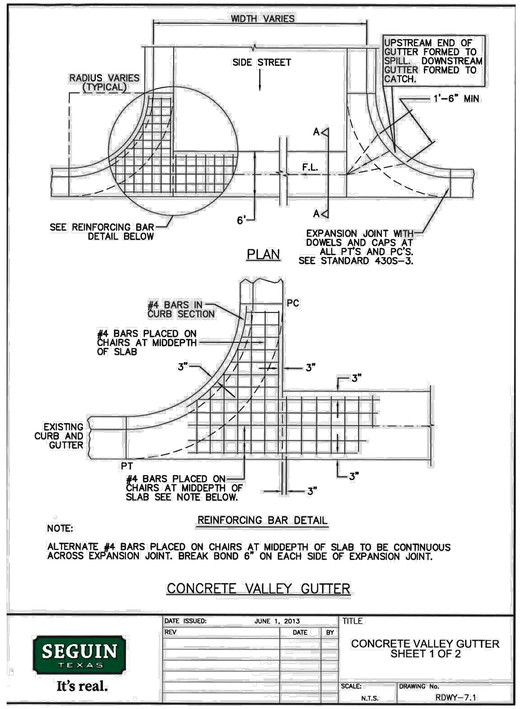
NO.	REVISION DESCRIPTION	REVISION DATE

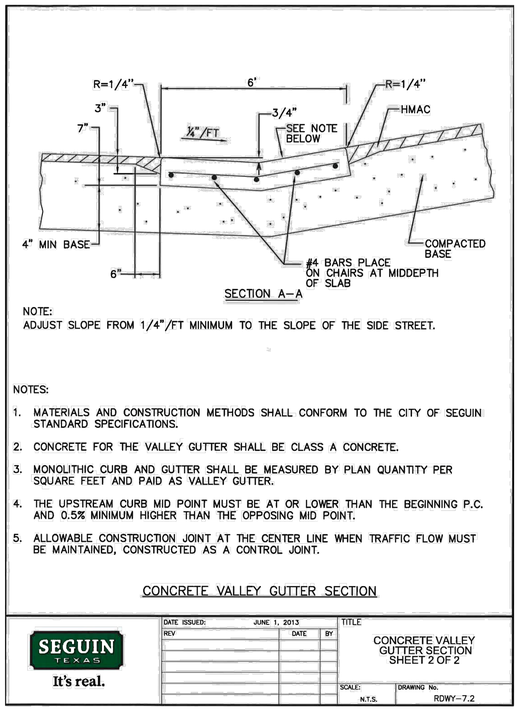
DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

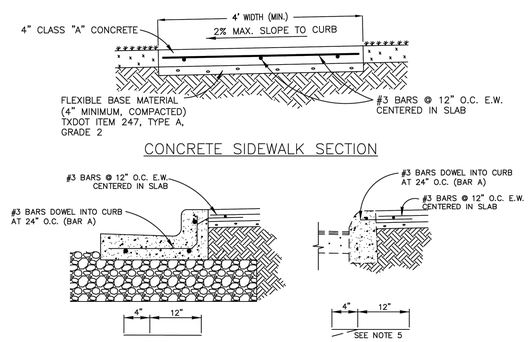
SHEET
C4.4

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_STREET DETAILS.dwg User: christians Nov 20, 2025 - 12:04pm









NOTE:
1. SIDEWALK SHALL NOT BE LOWER THAN TOP OF CURB.
2. SIDEWALK WIDTH SHALL CONFORM TO THE ROAD ADEQUACY AND ACCESS TECHNICAL GUIDANCE.
3. CONTROL (SCORED) JOINTS SHALL BE INSTALLED AT A DISTANCE EQUAL TO THE WIDTH OF THE SIDEWALK, A MINIMUM OF 48 INCHES APART.
4. EXPANSION JOINTS ARE REQUIRED EVERY 40 LINEAR FEET OF SIDEWALK AND AT AREAS WHERE STRUCTURES, POSTS, ETC. PENETRATE THE SIDEWALK AND DIFFERENTIAL SETTLEMENT CAN BE ANTICIPATED.
5. BAR A MAY BE BENT TO PROVIDE MORE CONTACT WITH EXISTING CURB AND REDUCE BREAKING OF EXISTING CURB DURING INSTALLATION. MAINTAIN 4 INCH IMBED.
6. SIDEWALKS SHALL BE BROOM FINISHED.

DATE ISSUED: JUNE 1, 2013
REVISION | DATE | BY
1ST REVISION | 11/1/18 | MS
2ND REVISION | 3/22/24 | JS
3RD REVISION | 5/22/25 | JS
SCALE: N.T.S.
DRAWING No. SW–1
TITLE: CONCRETE SIDEWALK SECTION

SEGUIN TEXAS
It's real.

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

STREET DETAILS (3 OF 3)

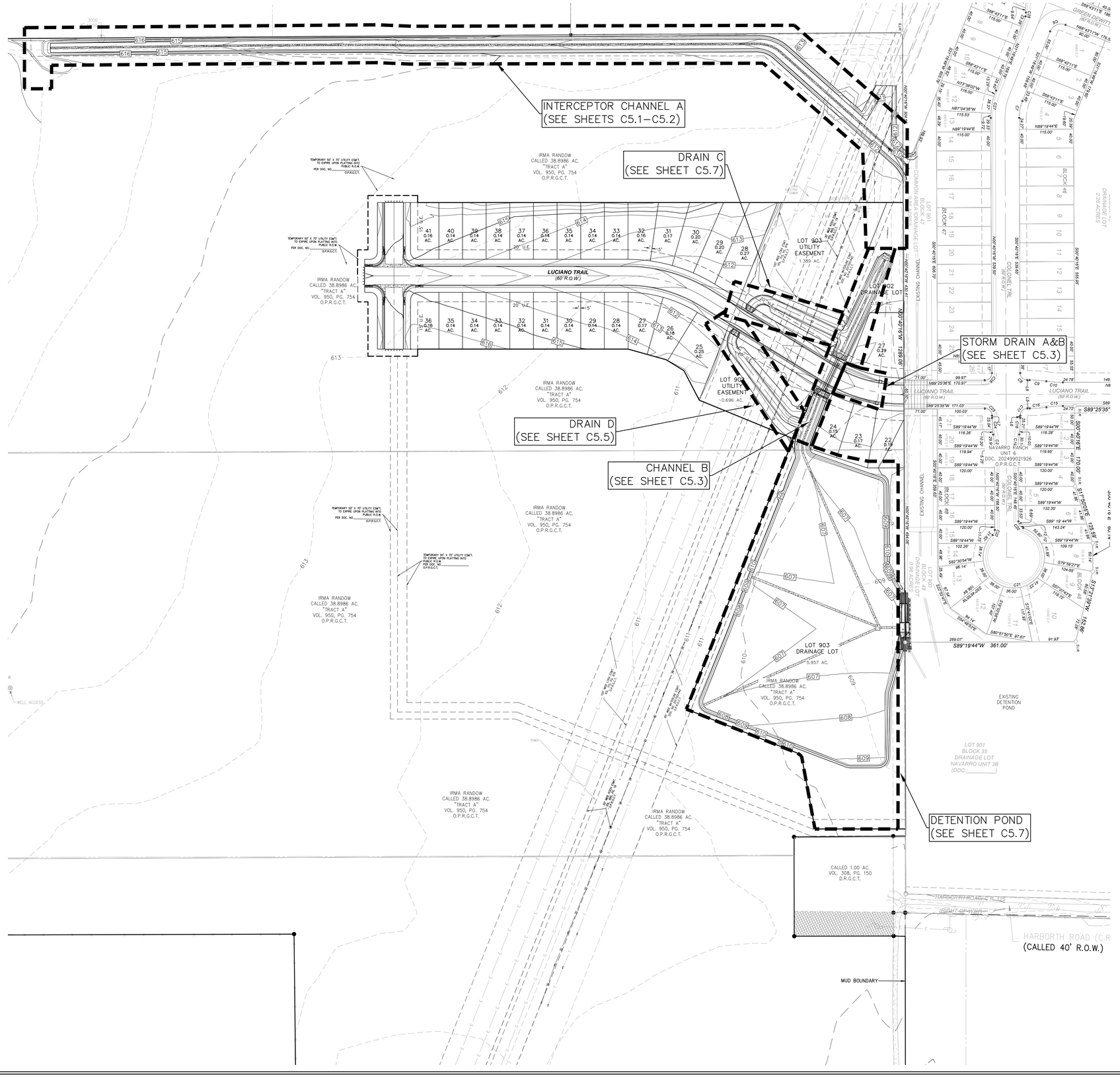
NAVARRO SUBDIVISION UNIT 9

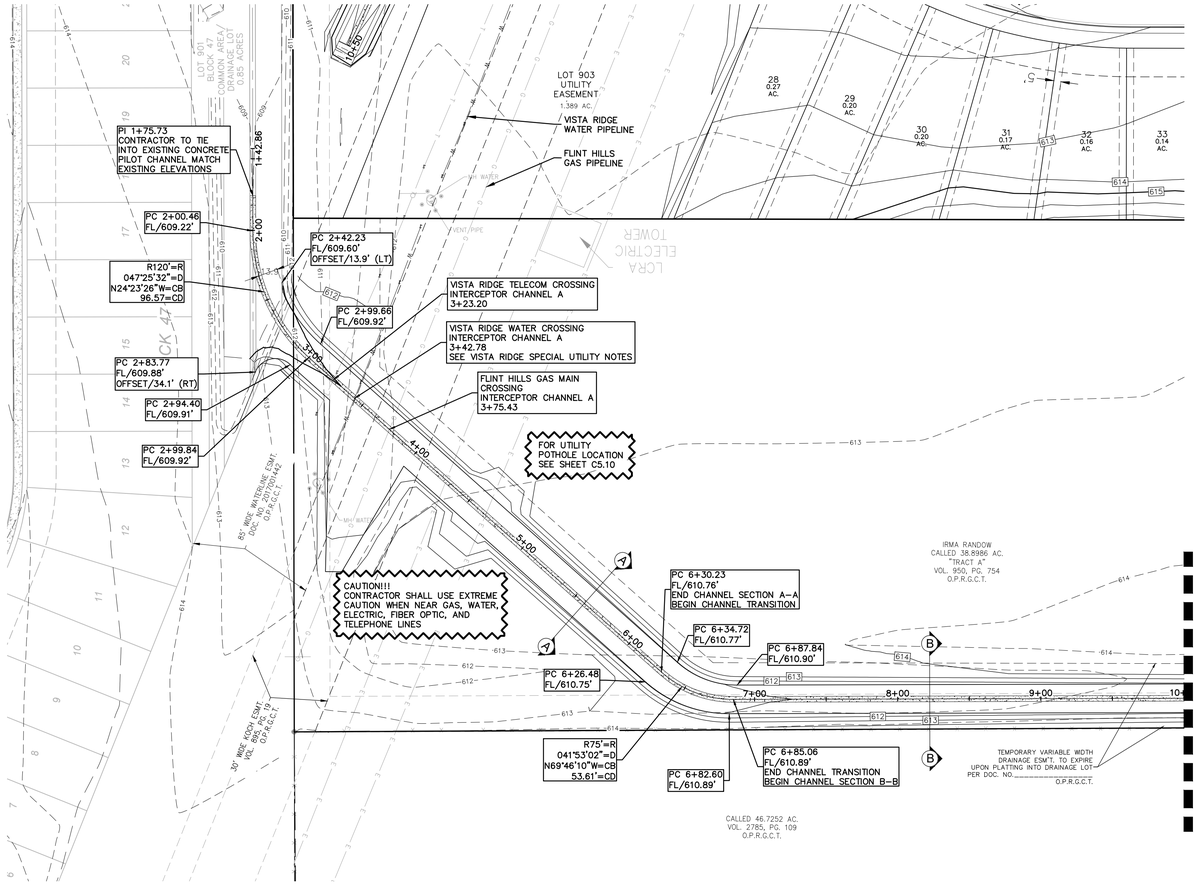
NO.	REVISION DESCRIPTION	REVISION DATE

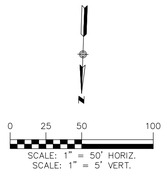
DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C4.5

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\CDs\337.116_STREET DETAILS.dwg User: christianc Nov 20, 2025 - 12:04pm

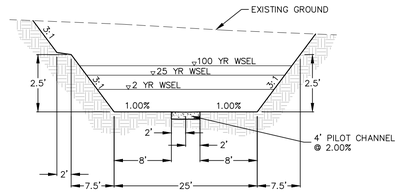

INTERCEPTOR CHANNEL A
(SEE SHEETS C5.1–C5.2)
DRAIN C
(SEE SHEET C5.7)
STORM DRAIN A&B
(SEE SHEET C5.3)
DRAIN D
(SEE SHEET C5.5)
CHANNEL B
(SEE SHEET C5.3)
DETENTION POND
(SEE SHEET C5.7)
LUCIANO TRAIL
(60' R.O.W.)
IRMA RANDOW
CALLED 38.8986 AC.
"TRACT A"
VOL. 950, PG. 754
O.P.R.G.C.T.
LOT 903
UTILITY
EASEMENT
1.389 AC.
LOT 902
DRAINAGE LOT
2.26 AC.
LOT 904
UTILITY
EASEMENT
0.696 AC.
LOT 903
DRAINAGE LOT
5.957 AC.
EXISTING
DETENTION
POND
LOT 901
BLOCK 35
DRAINAGE LOT
NAVARRO UNIT 3B
(DOC.
CALLED 1.00 AC.
VOL. 308, PG. 150
D.R.G.C.T.
HARBORTH ROAD (C.R
(CALLED 40' R.O.W.)
MUD BOUNDARY
WELL ACCESS
TEMPORARY 50' X 70' UTILITY ESMT.
TO EXPIRE UPON PLATTING INTO
PUBLIC R.O.W.
PER DOC. NO.
O.P.R.G.C.T.
15' U.E.
20' U.E.
5'
S89°19'44"W 361.00'
S89°25'35"
N89°25'36"E 170.97'
N00°40'16"W 1289.06'
S00°40'16"E 170.00'
S79°59'27"E 104.85'
S80°51'50"E 97.67'
269.07'
S79°59'27"E 104.85'
S89°19'44"W 109.15'
S89°19'44"W 143.24'
S89°19'44"W 132.35'
S89°19'44"W 119.95'
S89°19'44"W 116.26'
S89°19'44"W 102.26'
S89°19'44"W 96.14'
S89°30'54"W 96.14'
S89°19'44"W 120.00'
S89°19'44"W 119.94'
S89°19'44"W 116.28'
S89°19'44"W 119.94'
S89°19'44"W 120.00'
S89°19'44"W 120.00'
S89°19'44"W 120.00





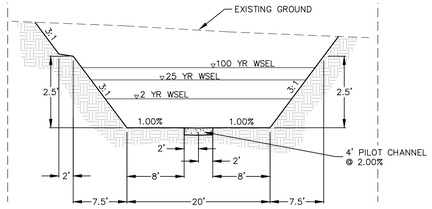
LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING



SECTION A–A

N.T.S.



SECTION B–B

N.T.S.

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

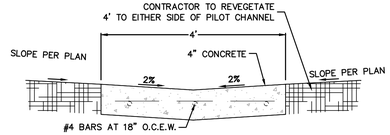
B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED FROM CHANNELS AND STORM SEWERS EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

C. BASINS AND CHANNELS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN OR CHANNEL DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS AND CHANNELS SHALL BE MAINTAINED AT ALL TIMES.

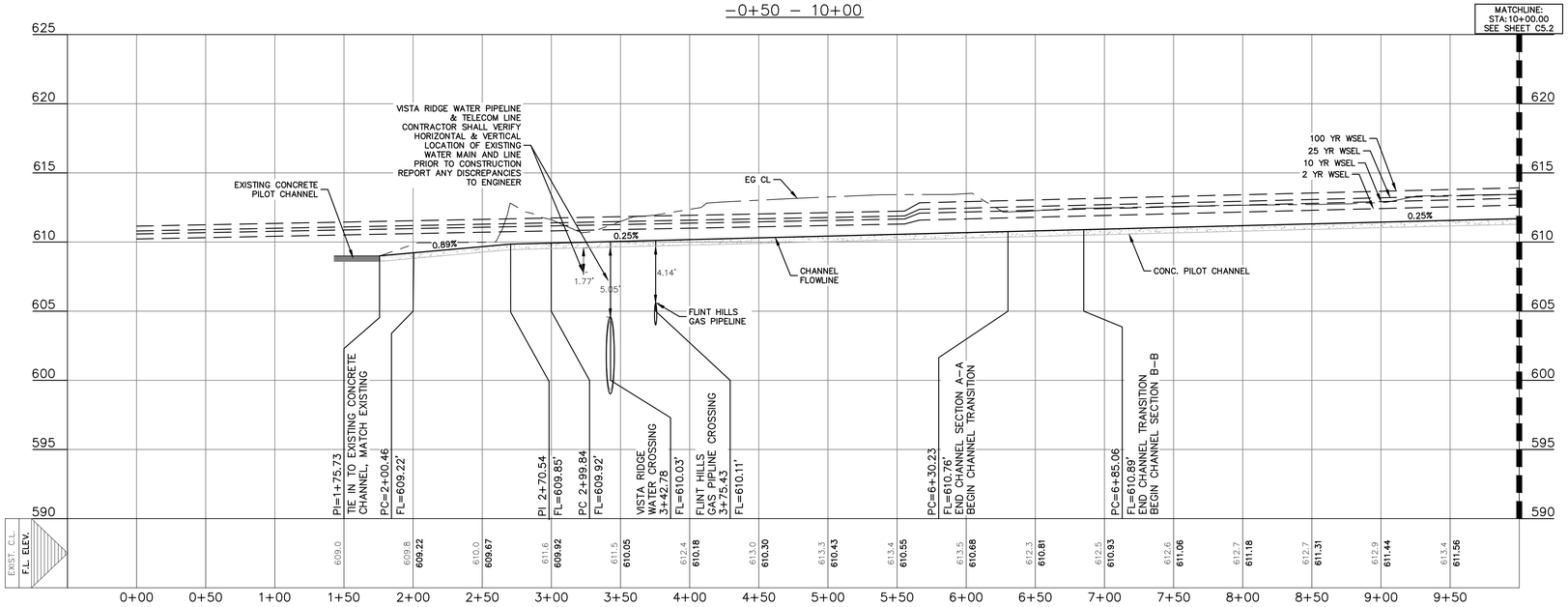
F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.



② PILOT CHANNEL

N.T.S.

INTERCEPTOR CHANNEL A
-0+50 – 10+00



VISTA RIDGE SPECIAL UTILITY NOTES:

1. CONTRACTOR SHALL REVIEW NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. THE WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14 DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE
2. THE WORK PLAN MUST PROVIDE A CROSSING PLAN THAT CLEARLY SHOWS DESIGNATED AREAS WHERE HEAVY EQUIPMENT WILL CROSS OVER THE VISTA RIDGE EASEMENT AND PROVIDE DETAILS FOR PIPELINE PROTECTION INCLUDING THE ASSOCIATED FIBER OPTIC AND CATHODIC PROTECTION INFRASTRUCTURE. THE CONTRACTOR WILL CLEARLY DELINEATE CROSSING LOCATIONS IN THE FIELD USING CONSTRUCTION FENCE OR SIMILAR MATERIALS.
3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. THE CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3 BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
5. NO TEMPORARY STOCKPILING OR STATIONING OF MATERIALS, EQUIPMENT OR FACILITIES WITHIN EASEMENT.
6. IF CROSSING OVER THE VR PIPELINE, THE CONTRACTOR WILL HAVE FIELD VERIFIED BOTH THE FIBER OPTIC LINE AND THE WATER LINE.
7. THE CONTRACTOR IS TO PROVIDE PROTECTION FROM EQUIPMENT AND TRUCKS TRAVELING OVER VISTA RIDGE PIPE WHICH MEETS OR EXCEED HS-20 LOADING CRITERIA.
8. FOR CROSSING UNDER THE VR PIPELINE, A TRENCHLESS METHOD IS REQUIRED. TRENCHLESS METHODS STILL REQUIRE AN OBSERVER TO BE ONSITE. ADDITIONALLY, CONTRACTOR WILL USE A HYDROVAC OR SIMILAR PIECE OF EQUIPMENT TO CREATE A HOLE ALONGSIDE OF THE VR PIPELINE SO THAT THE OBSERVER AND CONTRACTOR CAN WITNESS THE AUGER OR DRILL PASSING UNDER THE BOTTOM OF THE VR PIPELINE AT THE APPROPRIATE SPACING.
9. IF METALLIC PIPE SUCH AS DUCTILE IRON CROSSES THE VISTA RIDGE EASEMENT, ENGINEER WILL PROVIDE CATHODIC PROTECTION DEVICES THAT PROTECT THE VISTA RIDGE PIPE. DETAILS TO BE COORDINATED WITH CTRWSC.
10. CONTRACTOR SHALL TAKE NECESSARY PRECAUTION TO PROTECT VISTA RIDGE CATHODIC PROTECTION SYSTEM COMPONENTS AND PIPE PROTECTIVE COATING.
11. BACKFILL ACCORDING TO EXHIBIT A–CROSSING EXAMPLE ON SHEET C7.05).

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED
PROFESSIONAL ENGINEER
11/20/2025

INTERCEPTOR CHANNEL A PLAN & PROFILE (1 OF 2)

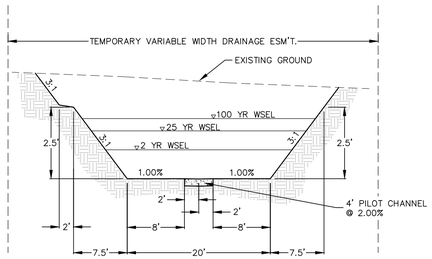
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

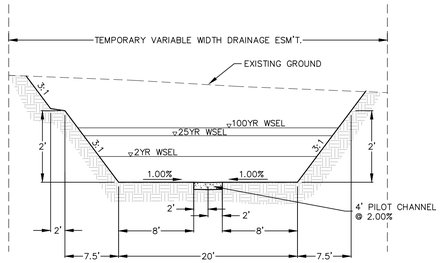
SHEET
C5.1

Drawing Name: M:_Projects\337 – Lennar Homes\116 – Navarro Ranch Addition – Unit 1\CDs\337.116_CHANNEL A P&P.dwg User: chrisiono Nov 20, 2025 – 12:04pm



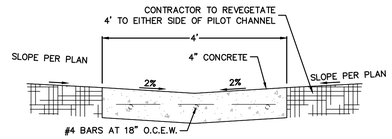
SECTION B–B

N.T.S.



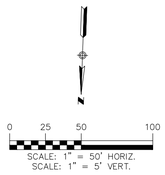
SECTION C–C

N.T.S.



2 PILOT CHANNEL

N.T.S.



LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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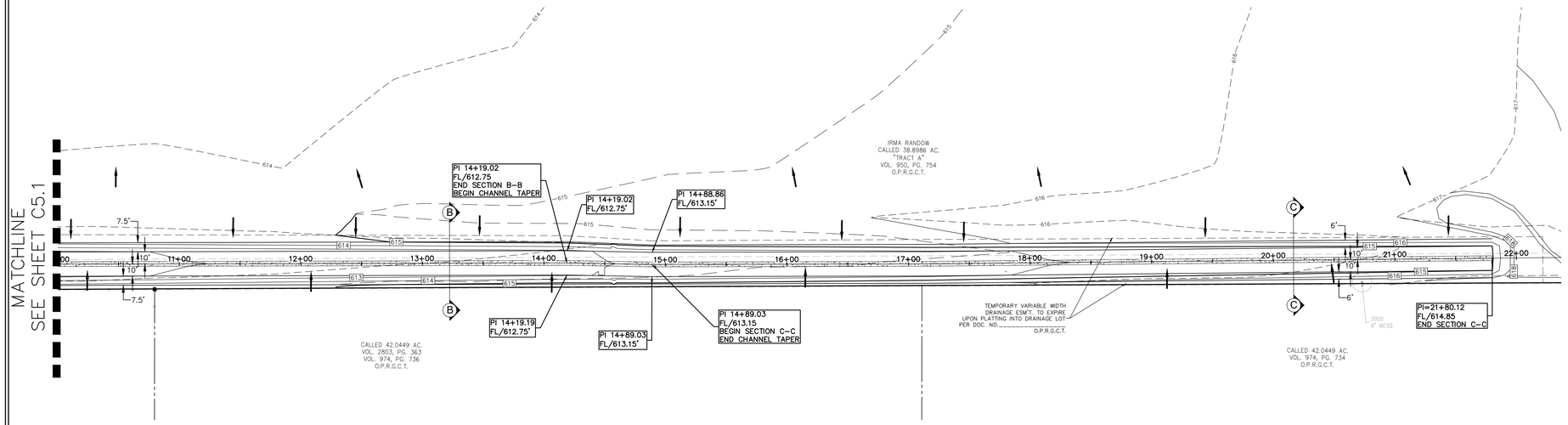
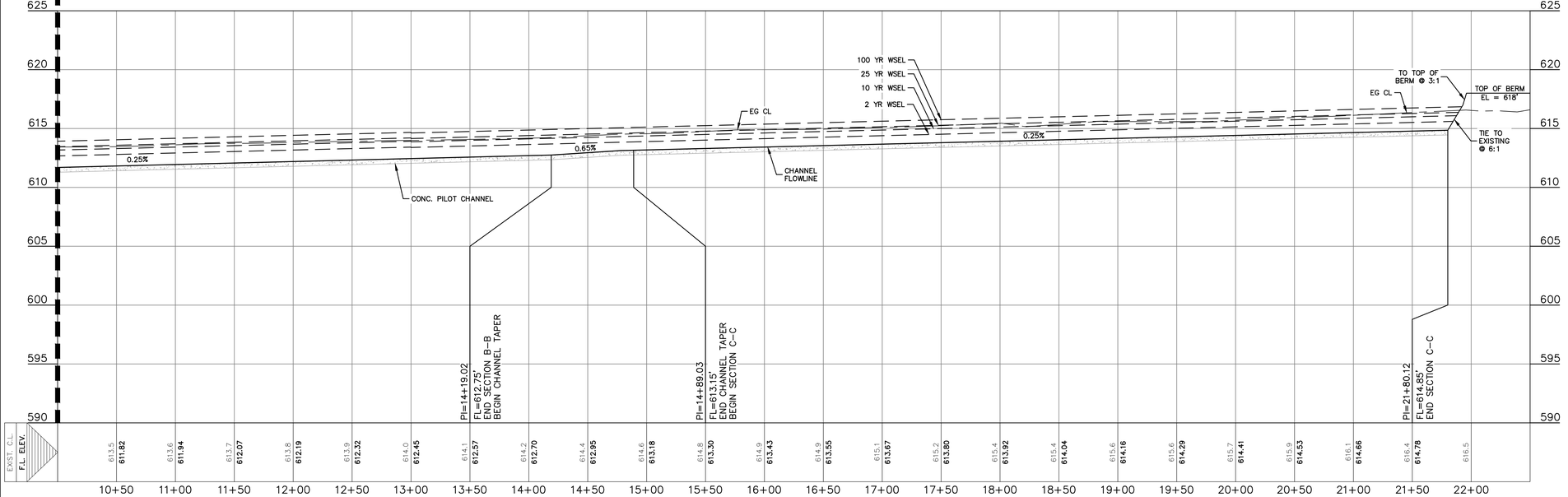


INTERCEPTOR CHANNEL A
10+00 – 22+50



THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

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ZOE F. JASSO
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LICENSED PROFESSIONAL ENGINEER
11/20/2025

INTERCEPTOR CHANNEL A PLAN & PROFILE (2 OF 2)

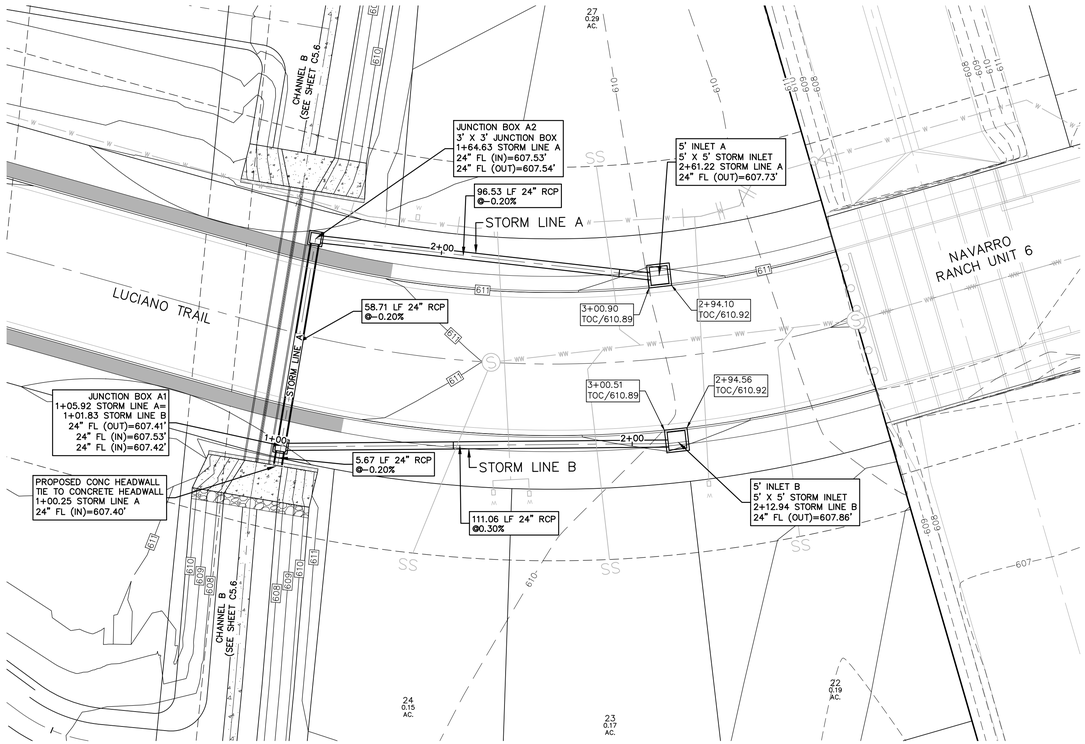
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C5.2

Drawing Name: M:_Projects\337 – Lennar Homes\116 – Navarro Ranch Addition – Unit 1\CDs\337-116_CHANNEL A P&P.dwg User: christians Nov 20, 2025 – 12:04pm



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F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS, ETC, SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. THE BUILDER AND/OR DEVELOPER WILL BE RESPONSIBLE FOR REPAIR TO ROADWAY AND UTILITY INFRASTRUCTURE IF PUBLIC UTILITIES ARE INSTALLED IMPROPERLY.

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN PROJECT INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN PROJECT INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF SEGUIN PROJECT INSPECTOR.

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

VISTA RIDGE SPECIAL UTILITY NOTES:

1. THE CONTRACTOR TO SUBMIT A WORK PLAN FOR CROSSING THE VISTA RIDGE PIPE AND NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. THE WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14 DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE
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3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. THE CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3 BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
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8. FOR CROSSING UNDER THE VR PIPELINE, A TRENCHLESS METHOD IS REQUIRED. TRENCHLESS METHODS STILL REQUIRE AN OBSERVER TO BE ONSITE. ADDITIONALLY, CONTRACTOR WILL USE A HYDROVAC OR SIMILAR PIECE OF EQUIPMENT TO CREATE A HOLE ALONGSIDE OF THE VR PIPELINE SO THAT THE OBSERVER AND CONTRACTOR CAN WITNESS THE AUGER OR DRILL PASSING UNDER THE BOTTOM OF THE VR PIPELINE AT THE APPROPRIATE SPACING.
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11. BACKFILL ACCORDING TO EXHIBIT A-CROSSING EXAMPLE ON SHEET C7.05).

N

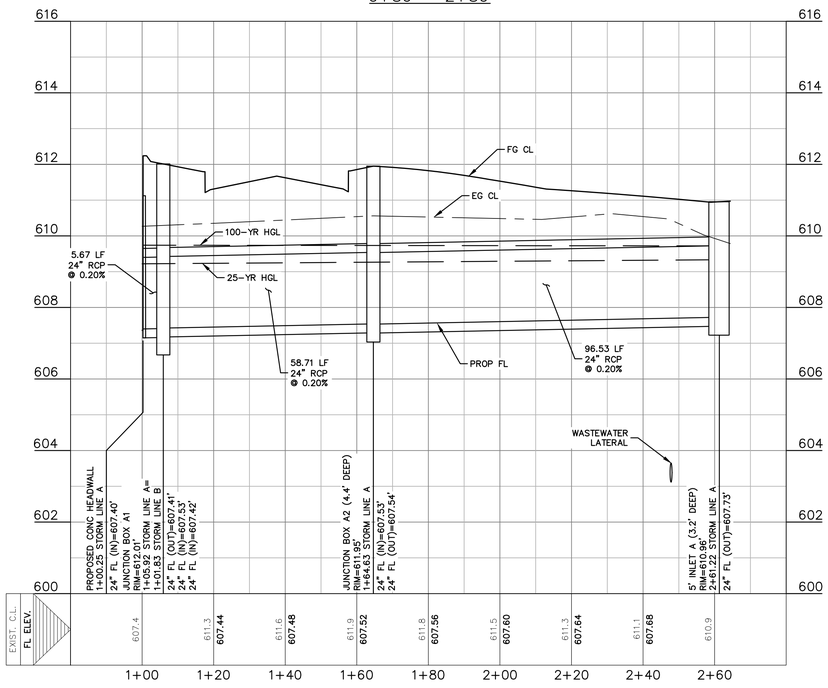
0 10 20 40

SCALE: 1" = 20' HORZ.
1" = 2' VERT.

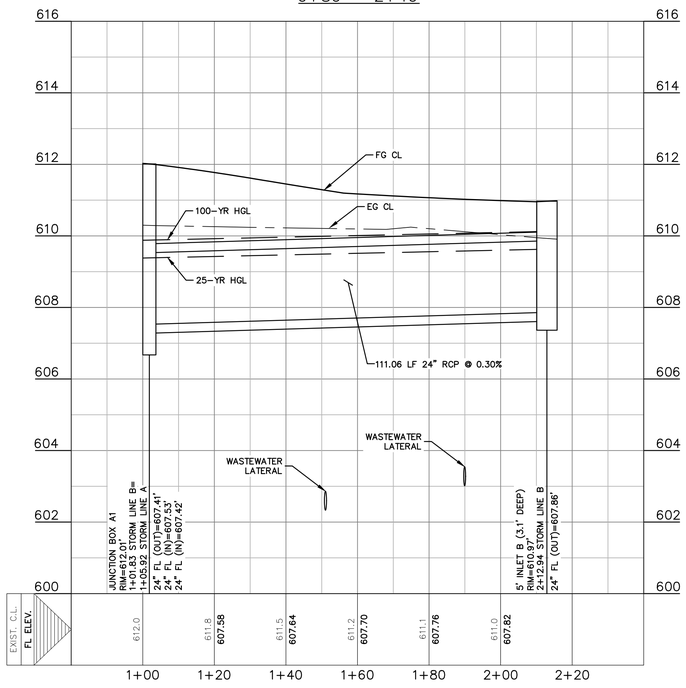
LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
	A.D.A. RAMP
	FLOW ARROW
	EXISTING GROUND LEFT (EG LT)
	EXISTING GROUND RIGHT (EG RT)
	EXISTING GROUND CENTER (EG CTR)
	PROPOSED GROUND
	UNIT BOUNDARY

STORM LINE A
0+80 – 2+80



STORM LINE B
0+80 – 2+40



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NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED
PROFESSIONAL ENGINEER
11/20/2025

STORM DRAIN A & B PLAN & PROFILE

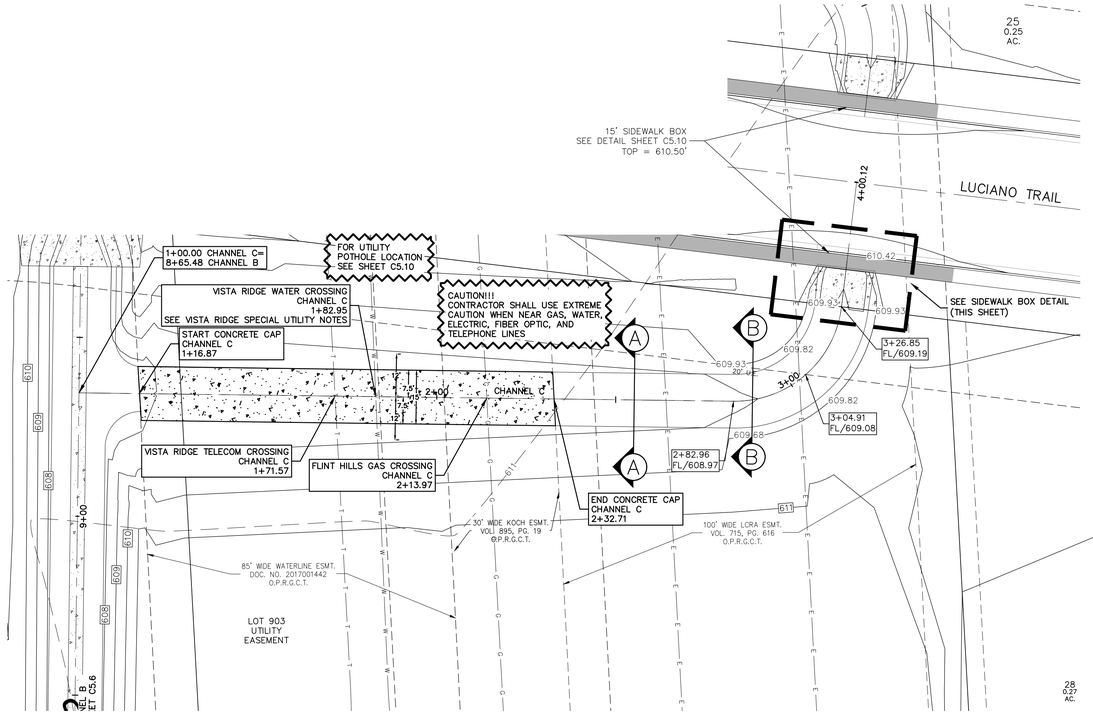
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

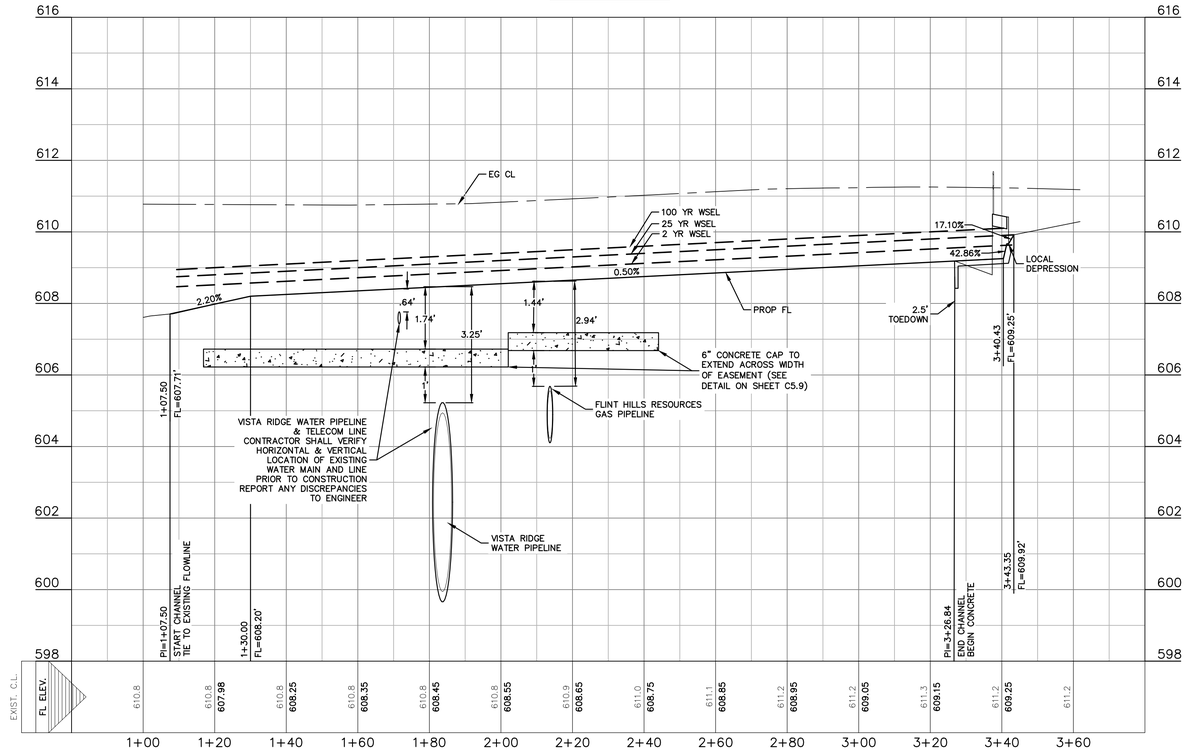
DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

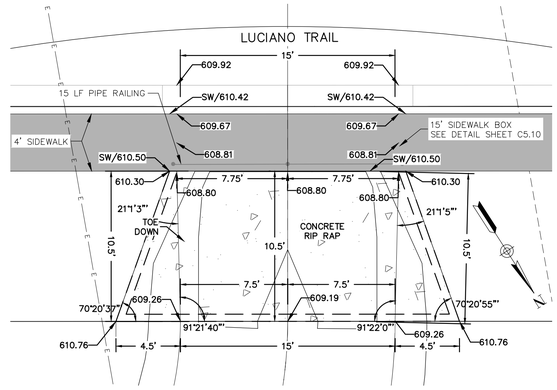
SHEET
C5.3

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_STORM LINE A-B P&P.dwg User: christianc Nov 20, 2025 - 12:04pm

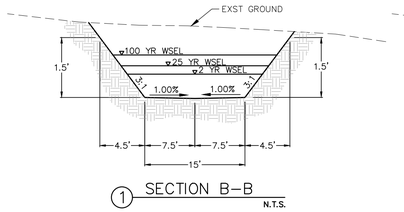


CHANNEL C
0+80 – 3+80

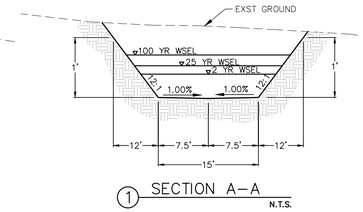




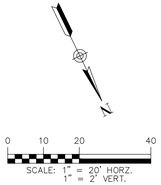
CHANNEL "C"
SIDEWALK BOX DETAIL



① SECTION B–B
N.T.S.



① SECTION A–A
N.T.S.



LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
- EXISTING GROUND CENTER (EG CTR)
- PROPOSED TOP OF CURB (PR TC)
- 2.0% MAX — ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.5**)
- SIDEWALK TO BE CONSTRUCTED BY SITE DEVELOPMENT CONTRACTOR

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED FROM CHANNELS AND STORM SEWERS EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

C. BASINS AND CHANNELS SHALL BE MOWED ANNUALLY BETWEEN THE MONTHS OF JUNE AND SEPTEMBER.

D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN OR CHANNEL DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

E. STRUCTURAL INTEGRITY OF BASINS AND CHANNELS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. THE BUILDER AND/OR DEVELOPER WILL BE RESPONSIBLE FOR REPAIR TO ROADWAY AND UTILITY INFRASTRUCTURE IF PUBLIC UTILITIES ARE INSTALLED IMPROPERLY.

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO–TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX–113–E, TEX–114–E, TEX–115–E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN PROJECT INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEO–TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN PROJECT INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF SEGUIN PROJECT INSPECTOR.

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5–FEET IN DEPTH LOCATED IN PUBLIC RIGHT–OF–WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

VISTA RIDGE SPECIAL UTILITY NOTES:

1. THE CONTRACTOR TO SUBMIT A WORK PLAN FOR CROSSING THE VISTA RIDGE PIPE AND NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. THE WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14 DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE.
2. THE WORK PLAN MUST PROVIDE A CROSSING PLAN THAT CLEARLY SHOWS DESIGNATED AREAS WHERE HEAVY EQUIPMENT WILL CROSS OVER THE VISTA RIDGE EASEMENT AND PROVIDE DETAILS FOR PIPELINE PROTECTION INCLUDING THE ASSOCIATED FIBER OPTIC AND CATHODIC PROTECTION INFRASTRUCTURE. THE CONTRACTOR WILL CLEARLY DELINEATE CROSSING LOCATIONS IN THE FIELD USING CONSTRUCTION FENCE OR SIMILAR MATERIALS.
3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. THE CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3 BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
5. NO TEMPORARY STOCKPILING OR STATIONING OF MATERIALS, EQUIPMENT OR FACILITIES WITHIN EASEMENT.
6. IF CROSSING OVER THE VR PIPELINE, THE CONTRACTOR WILL HAVE FIELD VERIFIED BOTH THE FIBER OPTIC LINE AND THE WATER LINE.
7. THE CONTRACTOR IS TO PROVIDE PROTECTION FROM EQUIPMENT AND TRUCKS TRAVELING OVER VISTA RIDGE PIPE WHICH MEETS OR EXCEED HS–20 LOADING CRITERIA.
8. FOR CROSSING UNDER THE VR PIPELINE, A TRENCHLESS METHOD IS REQUIRED. TRENCHLESS METHODS STILL REQUIRE AN OBSERVER TO BE ONSITE. ADDITIONALLY, CONTRACTOR WILL USE A HYDROVAC OR SIMILAR PIECE OF EQUIPMENT TO CREATE A HOLE ALONGSIDE OF THE VR PIPELINE SO THAT THE OBSERVER AND CONTRACTOR CAN WITNESS THE AUGER OR DRILL PASSING UNDER THE BOTTOM OF THE VR PIPELINE AT THE APPROPRIATE SPACING.
9. IF METALLIC PIPE SUCH AS DUCTILE IRON CROSSES THE VISTA RIDGE EASEMENT, ENGINEER WILL PROVIDE CATHODIC PROTECTION DEVICES THAT PROTECT THE VISTA RIDGE PIPE. DETAILS TO BE COORDINATED WITH CTRWSC.
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11. BACKFILL ACCORDING TO EXHIBIT A–CROSSING EXAMPLE ON SHEET C7.05).

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HMT
ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

CHANNEL C PLAN & PROFILE

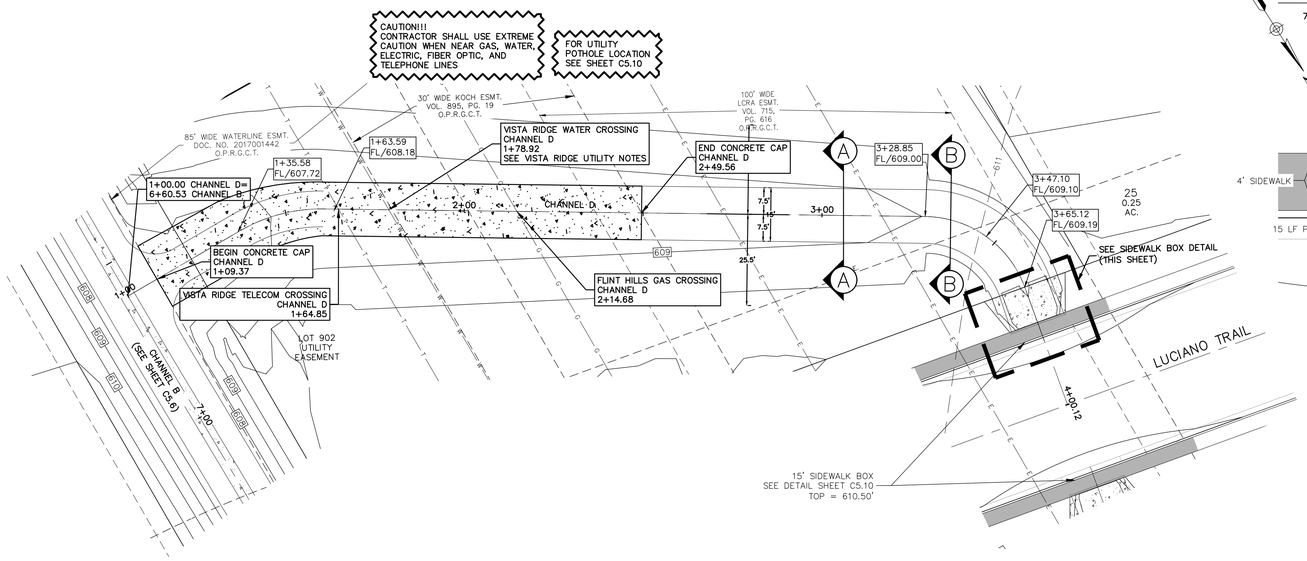
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

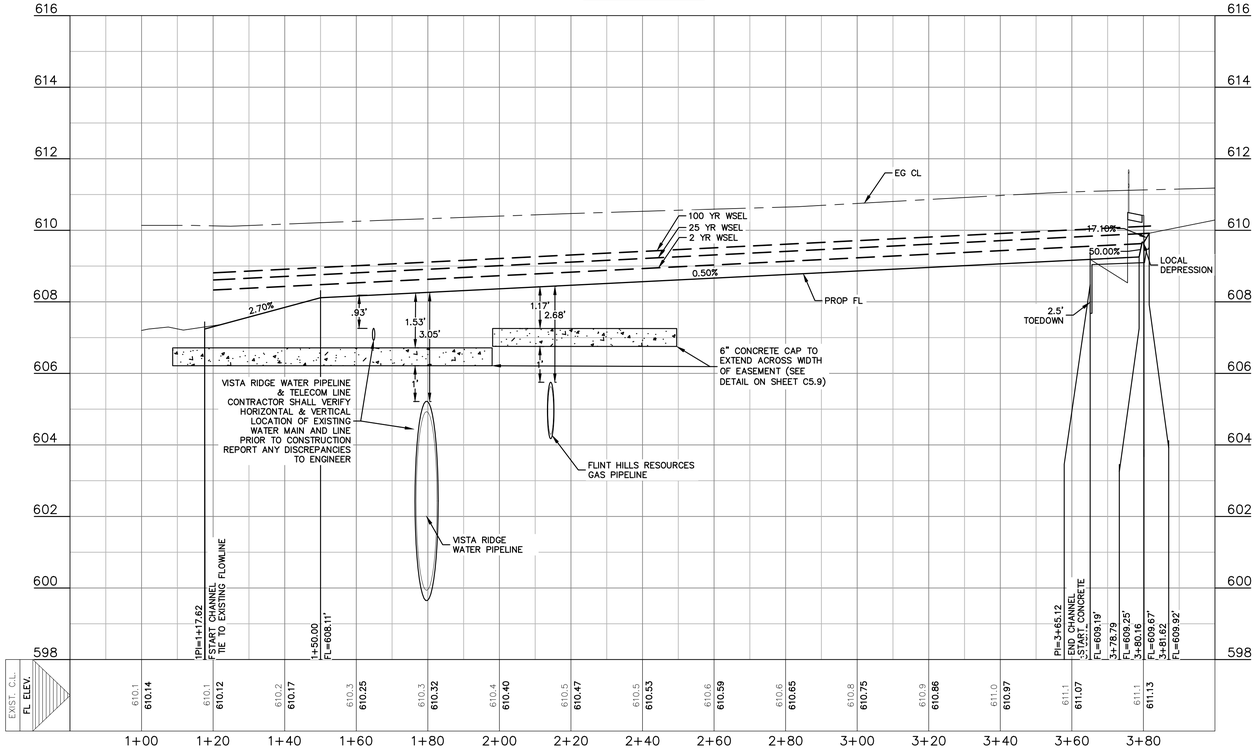
DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

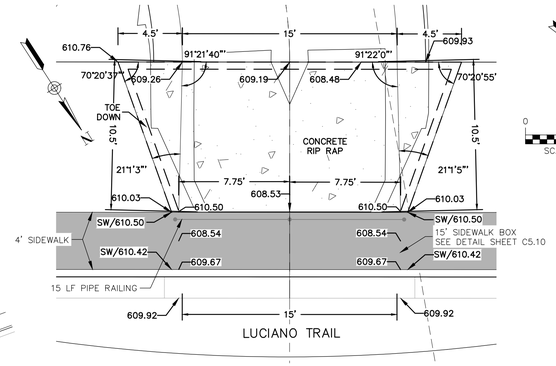
SHEET
C5.4

Drawing Name: M:_Projects\337 – Lennar Homes\116 – Navarro Ranch Addition – Unit 1\03a\337.116_LUCIANO LEFT CHANNEL.dwg User: christianc Nov 20, 2025 – 1:45pm

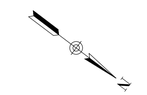


CHANNEL D
0+80 – 4+00





CHANNEL "D"
SIDEWALK BOX DETAIL



LEGEND

- 700 — EXISTING CONTOURS
- 700 — PROPOSED CONTOURS
- B.L. — BUILDING SETBACK LINE
- U.E. — UTILITY EASEMENT
- D.E. — DRAINAGE EASEMENT
- A.D.A. RAMP
- FLOW ARROW
- WASHOUT CROWN AREAS
- SPILL CURB
- EXISTING GROUND LEFT (EG LT)
- EXISTING GROUND RIGHT (EG RT)
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- PROPOSED TOP OF CURB (PR TC)
- ACCESSIBLE CROSSING AREA CONTRACTOR TO ENSURE MAX 2% CROSS SLOPE IN THESE AREAS
- 2.0% MAX — SIDEWALK RAMP TYPE TO BE CONSTRUCTED AT TIME OF STREET CONSTRUCTION (SEE DETAIL SHEET **C4.9**)
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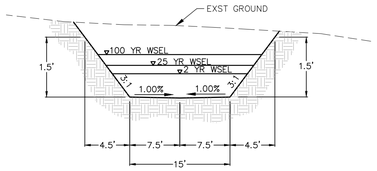
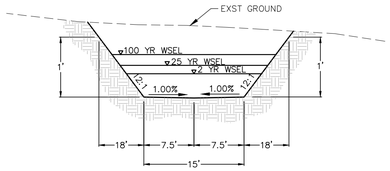


1 SECTION A–A N.T.S.



1 SECTION B–B N.T.S.

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

CHANNEL D PLAN & PROFILE

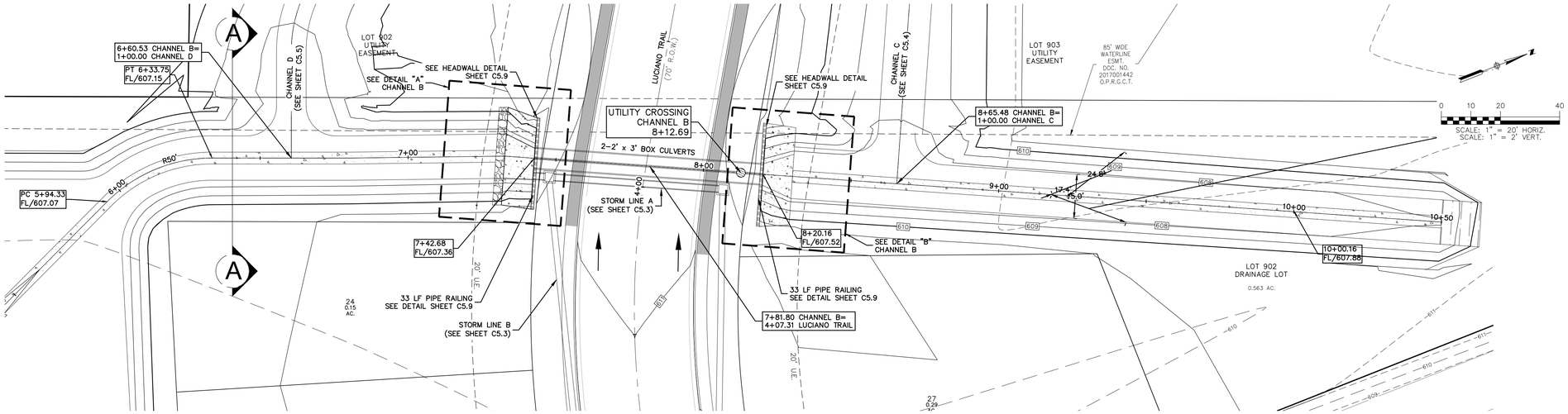
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C5.5

Drawing Name: M:_Project\337 – Lennar Homes\116 – Navarro Ranch Addition – Unit 1\CDs\337.116_LUCIANO RIGHT CHANNEL.dwg User: christianc Nov 20, 2025 – 1:45pm



LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

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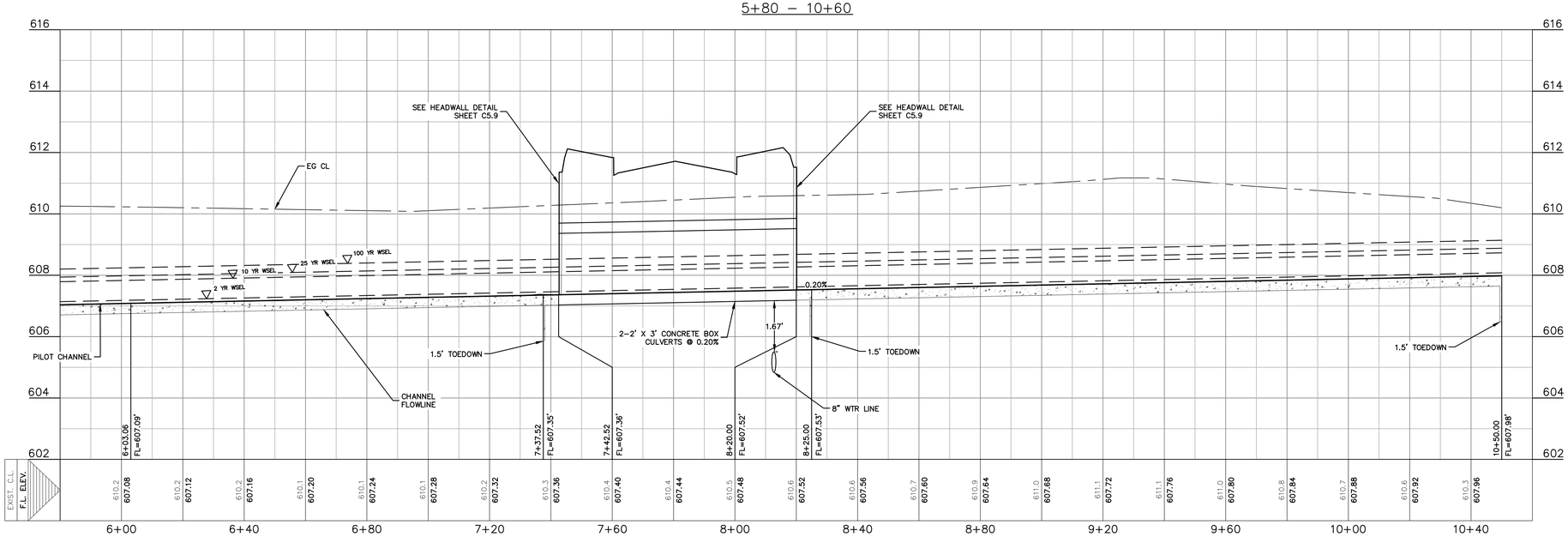
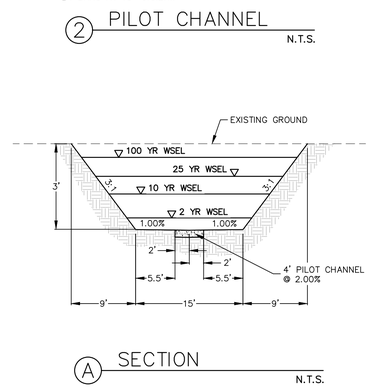
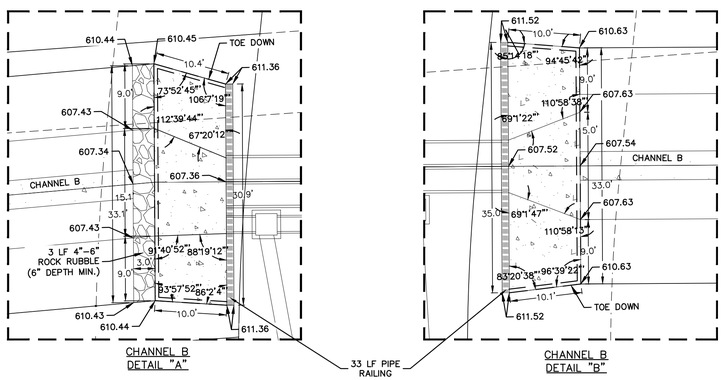
CHANNEL B
5+80 – 10+60





② PILOT CHANNEL
N.T.S.

Ⓐ SECTION
N.T.S.



CHANNEL B
DETAIL "A"

CHANNEL B
DETAIL "B"

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HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
103964
LICENSED
PROFESSIONAL ENGINEER
11/20/2025

CHANNEL B
PLAN & PROFILE

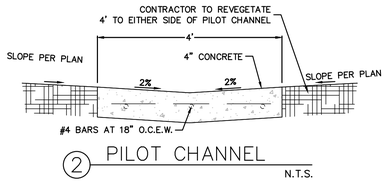
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET
C5.6

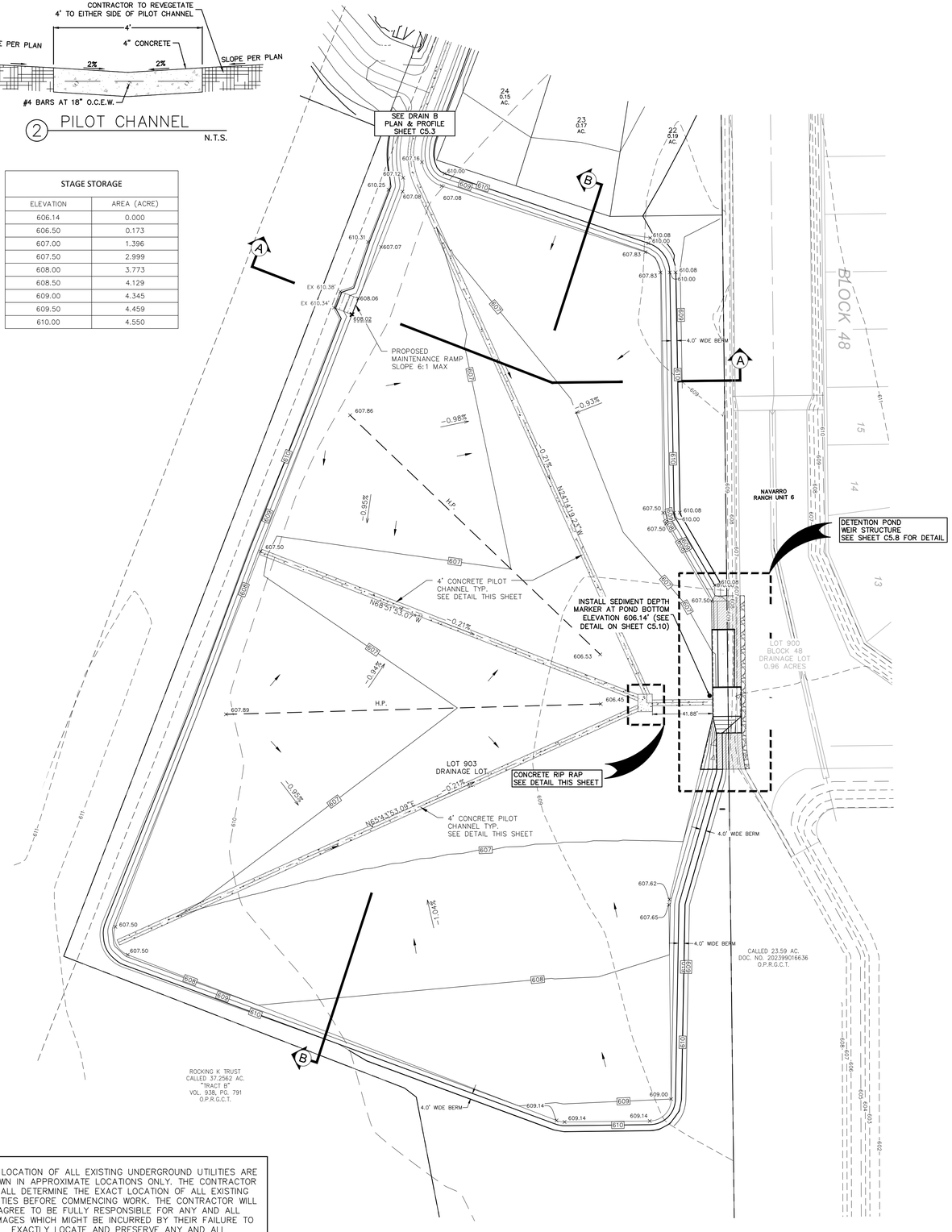
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_DRAIN B P&P.dwg User: christiano Nov 20, 2025 - 12:05pm



2 PILOT CHANNEL

N.T.S.

STAGE STORAGE	
ELEVATION	AREA (ACRE)
606.14	0.000
606.50	0.173
607.00	1.396
607.50	2.999
608.00	3.773
608.50	4.129
609.00	4.345
609.50	4.459
610.00	4.550



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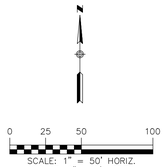
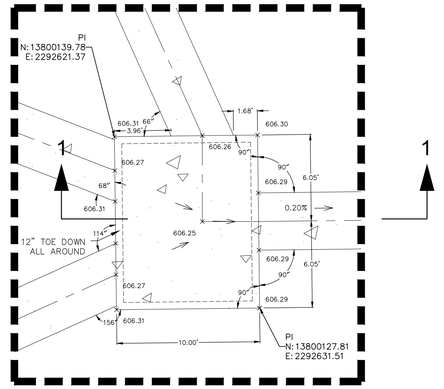


LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING
× 699.25	PROPOSED SPOT ELEVATION
× TW699.25	PROPOSED TOP OF WALL ELEVATION
× EX 606.02	EXISTING GROUND SPOT ELEVATION



CONCRETE RIP RAP

SCALE: 1" = 10'

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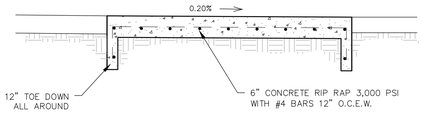
D. CORRECTIVE MAINTENANCE IS REQUIRED ANY TIME A BASIN OR CHANNEL DOES NOT DRAIN COMPLETELY WITHIN 60 HOURS OR CESSATION OF INFLOW (IE: NO STANDING WATER IS ALLOWED).

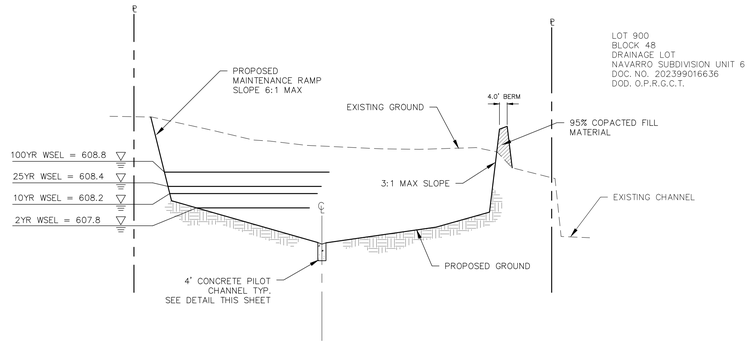
E. STRUCTURAL INTEGRITY OF BASINS AND CHANNELS SHALL BE MAINTAINED AT ALL TIMES.

F. MAINTENANCE VEHICLE FOR POND AND CHANNEL ACCESS SHOULD BE A BOBCAT S175 SKID STEER LOADER OR VEHICLE OF EQUAL TO LESSER SIZE.



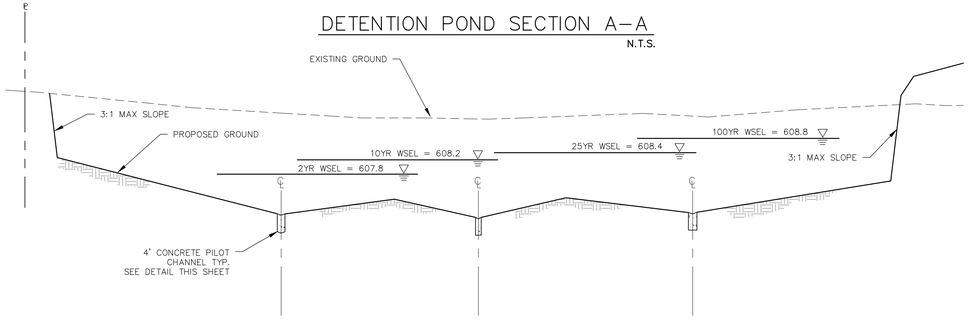
SECTION 1-1

N.T.S.



DETENTION POND SECTION A-A

N.T.S.



DETENTION POND SECTION B-B

N.T.S.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131984
LICENSED PROFESSIONAL ENGINEER
12/10/2025

DETENTION BASIN PLAN & DETAILS

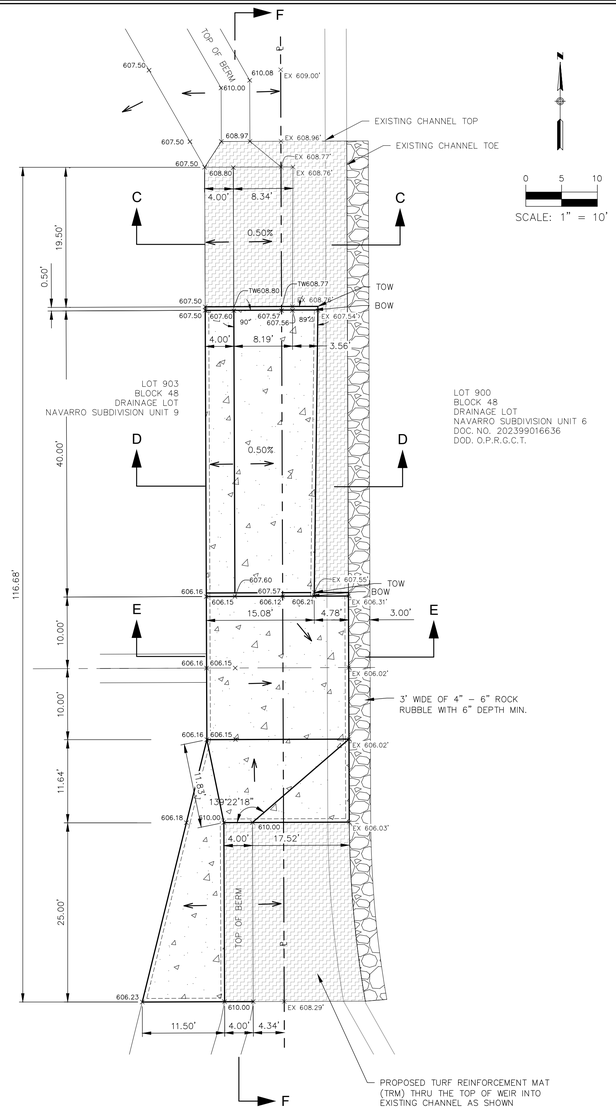
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE
	REVISION NOTES	DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

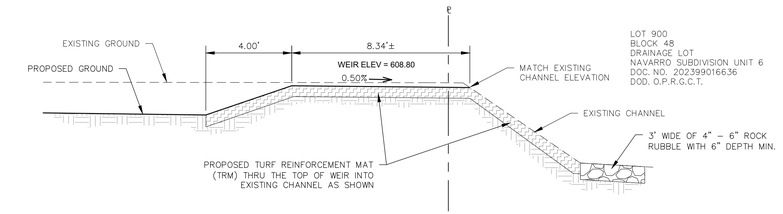
SHEET
C5.7

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\CDs\337.116_POND.dwg User: chrisfonc Dec 09, 2025 - 5:12pm



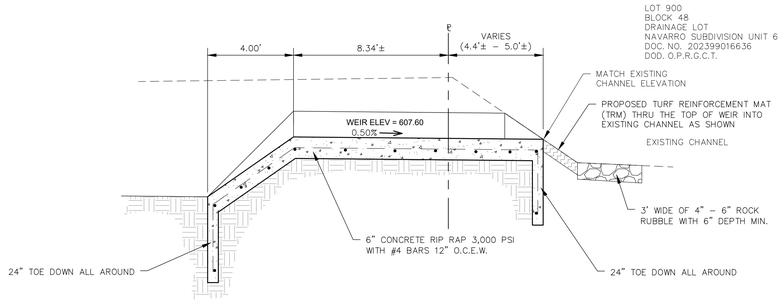
4 WEIR STRUCTURE DETAIL

SCALE: 1" = 10'



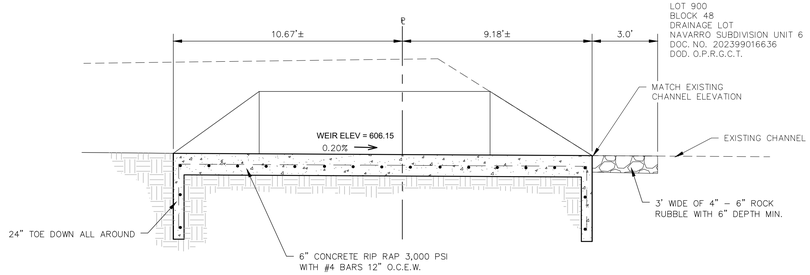
WEIR SECTION C–C

N.T.S.



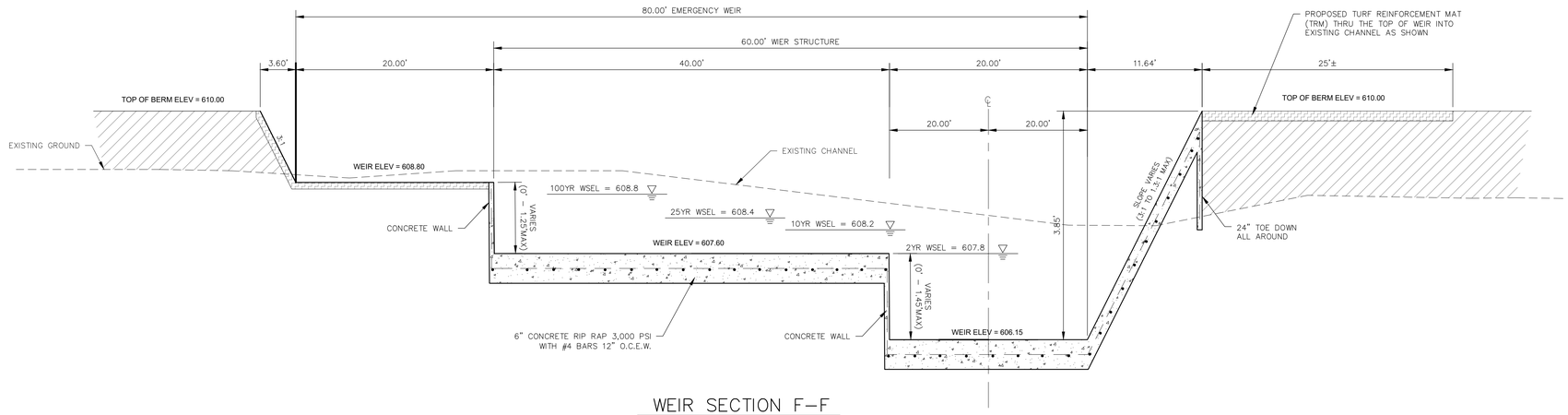
WEIR SECTION D–D

N.T.S.



WEIR SECTION E–E

N.T.S.



WEIR SECTION F–F

N.T.S.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24–HOURS PRIOR TO COMMENCING CONSTRUCTION.

LEGEND

700	EXISTING CONTOURS
700	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
S.B.C.	SINGLE BOX CULVERT
	PROPOSED STORM DRAIN LINE
	UTILITY CROSSING
× 699.25	PROPOSED SPOT ELEVATION
× TW699.25	PROPOSED TOP OF WALL ELEVATION
× EX 606.02	EXISTING GROUND SPOT ELEVATION

DRAINAGE FEATURES, DETENTION BASIN MAINTENANCE AND EQUIPMENT ACCESS REQUIREMENTS:

A. TO LIMIT EROSION, NO UNVEGETATED AREA SHALL EXCEED 10 SQ. FT. IN EXTENT.

B. ACCUMULATED PAPER, TRASH, AND DEBRIS SHALL BE REMOVED FROM CHANNELS AND STORM SEWERS EVERY 6 MONTHS OR AS NECESSARY TO MAINTAIN PROPER OPERATION.

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED
PROFESSIONAL ENGINEER
11/20/2025

DETENTION BASIN DETAILS

NAVARRO SUBDIVISION UNIT 9

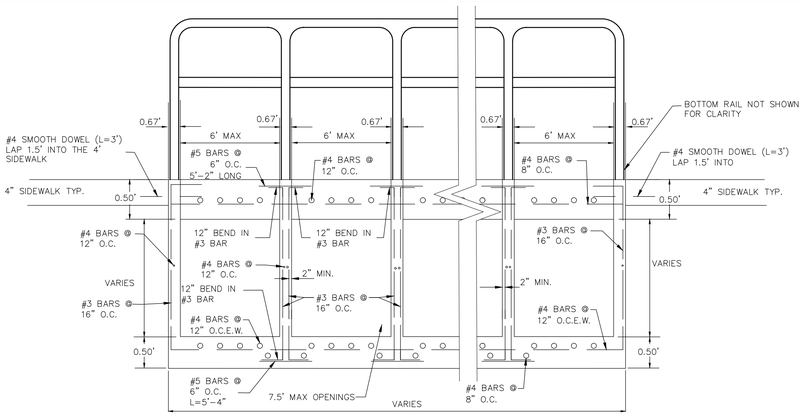
NO.	REVISION DESCRIPTION	REVISION DATE
		DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET

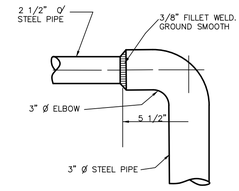
C5.8

Drawing Name: M:_Projects\337 – Lennar Homes\116 – Navarro Ranch Addition – Unit 1\(Civil)\337.116_P060.dwg User: chrisloncar Nov 20, 2025 – 12:05pm

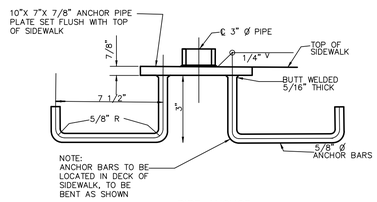


SIDEWALK BOX SECTION "A-A"

NOTE: RAILING TO BE PAINTED: SHOP COAT: "RUST-OLEUM" NO. 678 QUICK DRYING RED PRIMER. FIRST FIELD COAT: "RUST-OLEUM" NO. 7773 ZINC CHROMATE PRIMER. SECONDFIELD COAT: "RUST-OLEUM" NO. 7715 "ALUMINUM" OR APPROVED EQUAL.

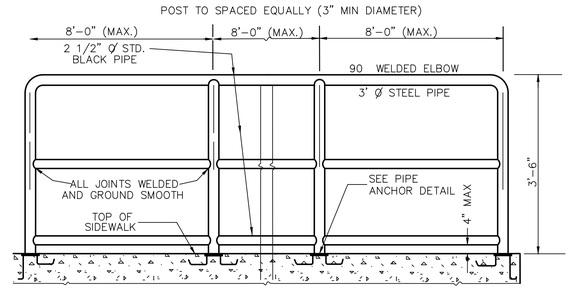


90° WELDED ELBOW



PIPE ANCHOR

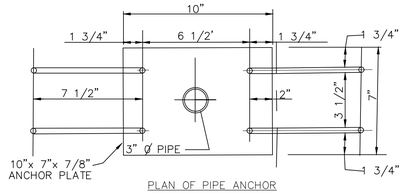
N.T.S.



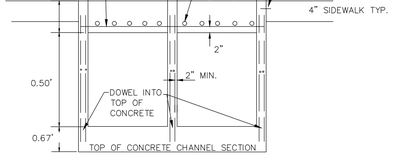
SIDEWALK PIPE RAILING DETAILS

N.T.S.

4-5/8" Ø DOWEL BARS BUTT WELDED TO BOTTOM OF PLATE

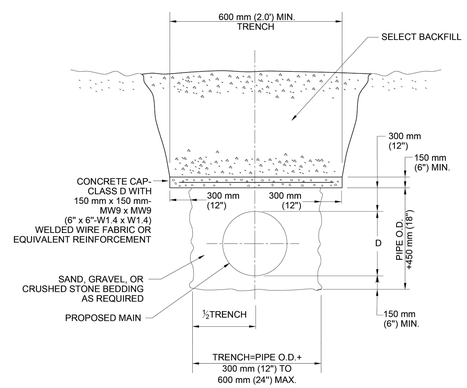


PLAN OF PIPE ANCHOR



SIDEWALK BOX OUTLET

N.T.S.



CITY OF AUSTIN WATER AND WASTEWATER UTILITY	CONCRETE TRENCH CAP	
RECORD COPY SIGNED BY KATHI F. PAYNE 2/17/00 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 510S-1 1 OF 1

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

STORM DETAILS (1 OF 2)

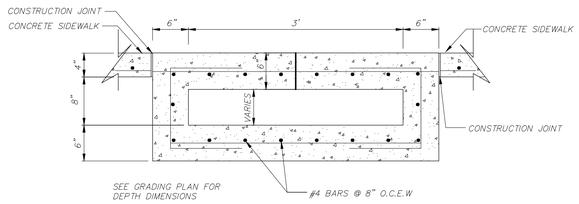
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

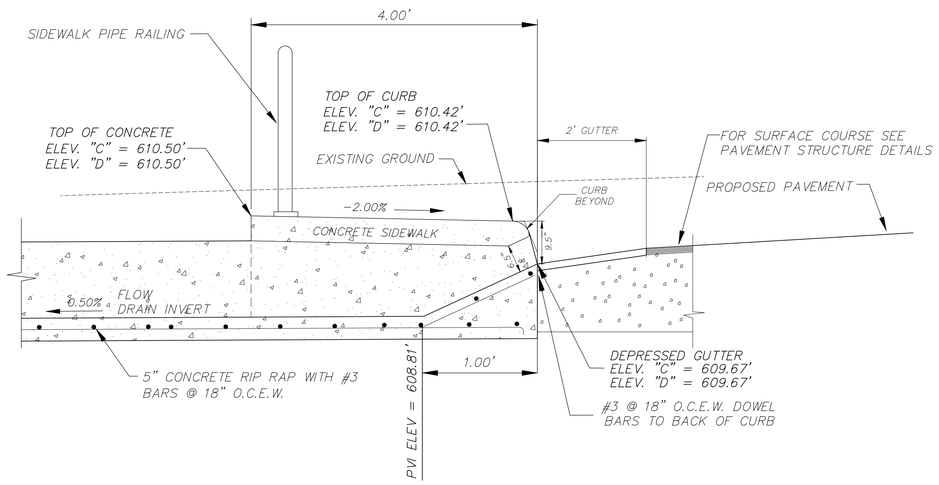
SHEET
C5.9

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\02a\337.116_STORM DETAILS.dwg User: chrisllanc Nov 20, 2025 - 12:05pm



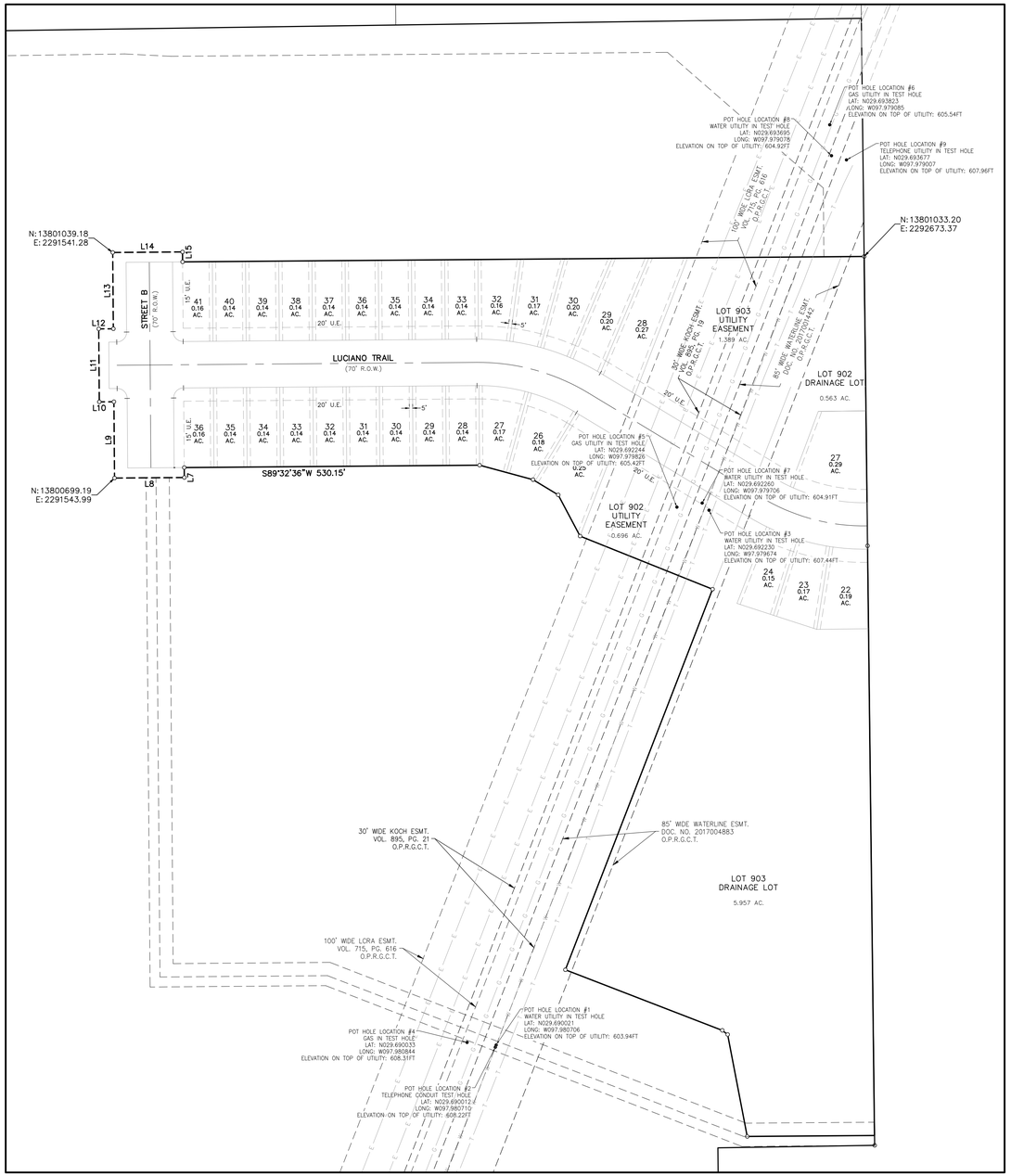
CONCRETE SIDEWALK BOX

SCALE: 1" = 1'

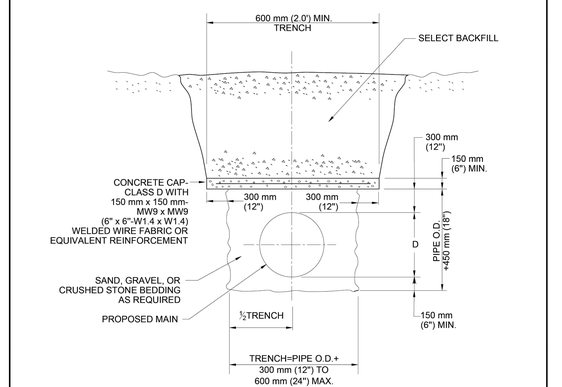


SIDEWALK BOX CHANNEL C & D

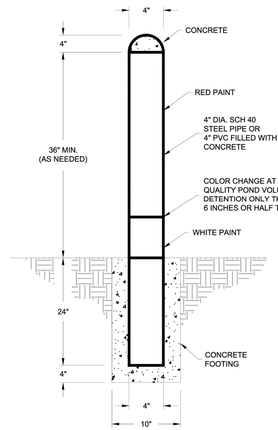
SCALE: 1" = 1'



POTHOLE LOCATION MAP



CITY OF AUSTIN WATER AND WASTEWATER UTILITY		CONCRETE TRENCH CAP	
RECORD COPY SIGNED BY KATHI F. PAYNE	2/17/00 ADOPTED	THE ENGINEER/ARCHITECT ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD. MODIFICATIONS TO THIS STANDARD ARE PROHIBITED.	STANDARD NO. 510S-1 1 OF 1



NOTES

1. PLAN MUST CALL OUT ELEVATION OF THE POND AT SEDIMENT MARK LOCATION.
2. PLAN MUST CALL OUT THE ELEVATION THAT SEDIMENT MUST BE REMOVE FORM THE POND AND NOTED COLOR CHANGE MUST MATCH THAT ELEVATION.
3. SEDIMENT MARK MUST BE WITHIN WITH 10 FEET OF THE LOWEST OUT FLOW CONTROL DEVICE.
4. PAINT NEEDS TO BE UV RESISTANT. SEDIMENT MARKERS IN THE WET POND NEED TO BE DESIGN FOR UNDER WATER USE. (possible)

The City of San Marcos Engineering and Capital Improvements	CURRENT AS OF 1/1/2022	POND SEDIMENT MAKER	
RECORD COPY SIGNED BY LAURIE MOYER, P.E.	1/1/2022 ADOPTED	THE ARCHITECT/ENGINEER ASSUMES RESPONSIBILITY FOR APPROPRIATE USE OF THIS STANDARD.	STANDARD NO. 508S-PSM-SM 1 OF 1

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
12/10/2025

STORM DETAILS (2 OF 2)

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

SHEET
C5.10

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cbs\337.116_STORM DETAILS.dwg User: christianc Dec 09, 2025 - 5:12pm

RESTRAINED LENGTH FOR PIPE											
PIPE INSIDE DIAMETER	MATERIAL	HORIZONTAL BENDS				VERTICAL BENDS						DEAD END/ INCLINE VALVES
						UPPER			LOWER			
		90°	45°	22.5°	11.25°	45°	22.5°	11.25°	45°	22.5°	11.25°	
8"	PVC	32	14	7	4	37	18	9	10	5	3	88
8"	DUCTILE IRON	27	11	6	3	24	12	6	8	4	2	57
12"	PVC	38	19	9	5	52	25	13	14	7	4	124
12"	DUCTILE IRON	45	16	8	4	33	16	8	12	6	3	80

RESTRAINED LENGTH NOTES:
1. CONTRACTOR TO COORDINATE WITH CRYSTAL CLEAR SPECIAL UTILITIES DISTRICT (C.C.S.U.D.) FOR WATER SERVICE TO THE SITE.
2. ALL IN-LINE VALVES, BENDS & PLUGS SHALL BE RESTRAINED, RESTRAINT TO BE PROVIDED ON EACH SIDE OF THE VALVE, FITTING OR ANY REQUIRED JOINT.
3. RL=RESTRAINT LENGTH
4. CONTRACTOR SHALL DETERMINE RESTRAINT LENGTH REQUIRED FOR HORIZONTAL VERTICAL FITTINGS BASED ON RESTRAINT LENGTH TABLE SHOWN BELOW.

TEE			
PIPE INSIDE DIAMETER OF RUN	PIPE INSIDE DIAMETER OF BRANCH	MATERIAL	FT.
8"	8"	PVC	77
8"	8"	DUCTILE IRON	50
12"	8"	PVC	72
12"	8"	DUCTILE IRON	46
12"	12"	PVC	114
12"	12"	DUCTILE IRON	73

WATER STRUCTURE TOTALS					
PIPE SIZE	PIPE LENGTH	DOMESTIC METER SIZE	DOMESTIC METERS	FIRE HYDRANTS	FIRE LINES
0'-8"	1523 LF	0'-0 3/4"	30	2	0

NOTES:

LENGTHS SHOWN ABOVE WERE COMPUTED BASED ON THE FOLLOWING VALUES:

1) SAFETY FACTOR = 1.5 TO 1
2) TEST PRESSURE = 200psi.
3) SOIL DESIGNATION = INORGANIC CLAY OF HIGH PLASTICITY (CH, GRAN. FILL)
4) DEPTH OF COVER = 3.5 FEET (TYPICAL AND UPPER BEND)
5) DEPTH OF COVER = 5 FEET (LOWER BEND)
6) LENGTH ALONG RUN = 2 FEET
7) TRENCH TYPE = 5

UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEOTECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF NEW BRAUNFELS STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEOTECHNICAL ENGINEER SHALL PROVIDE THE CITY OF NEW BRAUNFELS STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF NEW BRAUNFELS INSPECTOR.

UTILITY TRENCH COMPACTION (DEEP)

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

UTILITY NOTES:

1. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO THE STREETS.
2. NO VALVES, HYDRANTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS OR DRIVEWAYS.
3. CONTRACTOR TO VERIFY EXISTING LATERAL HAS A MINIMUM LONGITUDINAL SLOPE OF 2%.
4. FIRE HYDRANTS ARE TO BE INSTALLED OUTSIDE OF THE SIDEWALK AND NO GREATER THAN 9 FEET FROM THE BACK OF CURB.
5. LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.
6. ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
7. CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

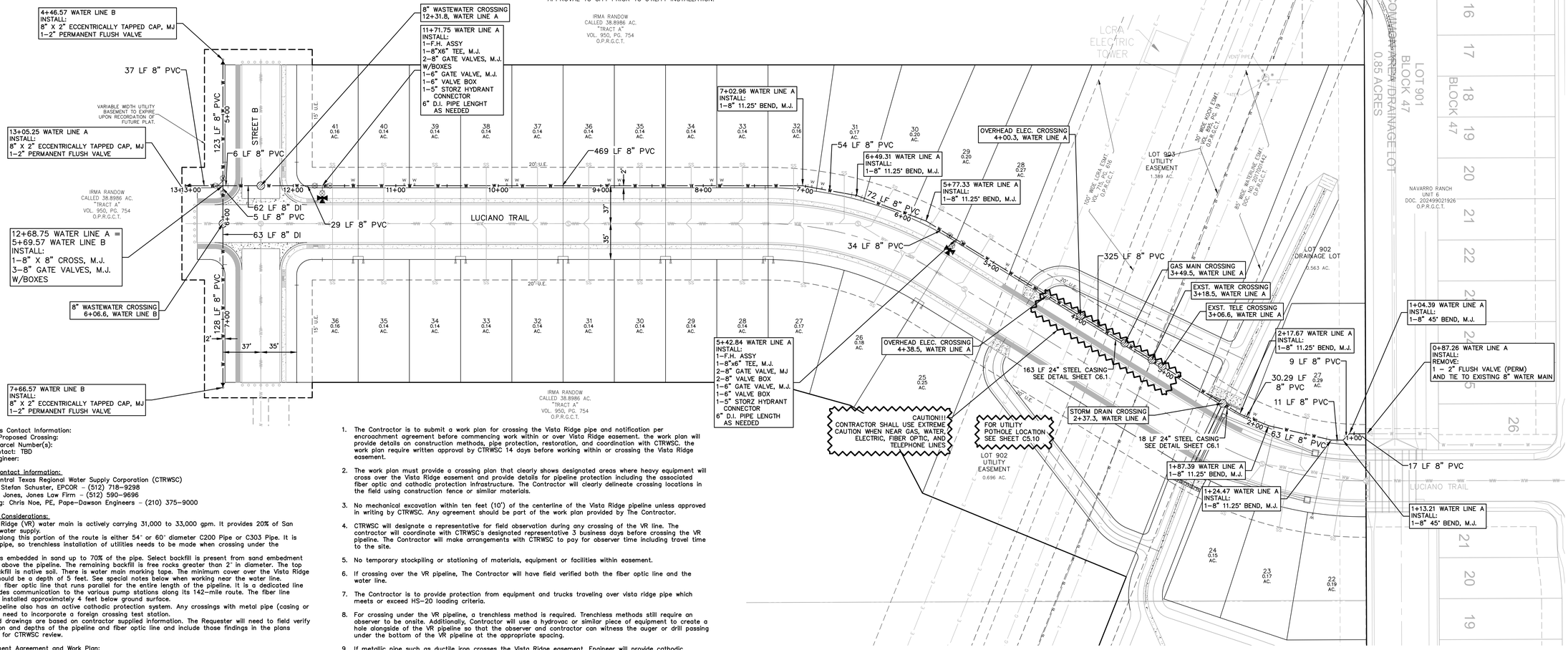
CRYSTAL CLEAR SUD (WATER)	(830) 372-1031
CITY OF SEGUIN (SEWER)	(830) 401-2222
GUADALUPE VALLEY ELECTRIC COMPANY (ELECTRIC)	(830) 857-1200
TIME WARNER CABLE SPECTRUM	(830) 625-3408
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545

8. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192(8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

HORIZONTAL SCALE: 1:50

LEGEND

- EXISTING CONTOURS
- PROPOSED CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- EXISTING WATER LINE
- PROPOSED WATER LINE
- PROPOSED SINGLE WATER SERVICE
- PROPOSED DUAL WATER SERVICE
- PROPOSED GATE VALVE
- PROPOSED FIRE HYDRANT
- UTILITY CROSSING



Requester's Contact Information:
Name of Proposed Crossing:
CTRWSC Parcel Number(s):
Owner Contact: TBD
Design Engineer:

CTRWSC Contact Information:
Owner: Central Texas Regional Water Supply Corporation (CTRWSC)
Operator: Stefan Schuster, EPCOR – (512) 718-9298
Legal: Will Jones, Jones Law Firm – (512) 590-9696
Engineering: Chris Noe, PE, Pape-Dawson Engineers – (210) 375-9000

Easement Considerations:
The Vista Ridge (VR) water main is actively carrying 31,000 to 33,000 gpm. It provides 20% of San Antonio's water supply.
The pipe along this portion of the route is either 54" or 60" diameter C200 Pipe or C303 Pipe. It is a jointed pipe, so trenchless installation of utilities needs to be made when crossing under the pipe.
The pipe is embedded in sand up to 70% of the pipe. Select backfill is present from sand embedment up to 12" above the pipeline. The remaining backfill is free rocks greater than 2" in diameter. The top 18" of backfill is native soil. There is water main marking tape. The minimum cover over the Vista Ridge pipeline should be a depth of 5 feet. See special notes below when working near the water line.
There is a fiber optic line that runs parallel for the entire length of the pipeline. It is a dedicated line that provides communication to the various pump stations along its 142-mile route. The fiber line should be installed approximately 4 feet below ground surface.
The VR pipeline also has an active cathodic protection system. Any crossings with metal pipe (casing or other) will need to incorporate a foreign crossing test station.
The record drawings are based on contractor supplied information. The Requester will need to field verify the location and depths of the pipeline and fiber optic line and include those findings in the plans submitted for CTRWSC review.

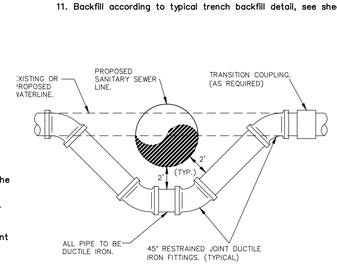
Encroachment Agreement and Work Plan:

- The Contractor is to supply work plan for crossing under Vista Ridge pipe and notification per encroachment agreement before commencing work within or over Vista Ridge easement.

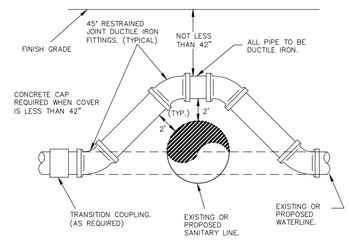
General design notes for encroachments of VR easement:

- The design engineer is to field verify fiber optic and water line at locations where proposed infrastructure crosses the Vista Ridge easement.
- No mechanical excavation within 10' of the VR waterline and fiber optic line.
- Provide plan and profile for all utilities (dry and wet), roadways, drainage swales, or other improvements encroaching within the Vista Ridge easement.
- For crossing under the VR pipeline, trenchless methods (with casing) will be required.
- Regardless of the installation method and whether the crossing is going above or below the VR pipeline, the proposed utility will maintain a minimum 2-feet of clearance.
- See exhibit a for examples of crossing by open-cut methods over and under the Vista Ridge line.
- No structures are allowed within the VR easement.
- All grade changes within easement must be shown on plan and profile. This includes changes to the grade from roads, sidewalks, ditches, etc. Traffic loads may require design engineer sealed calculations that verify loads won't adversely affect the VR pipeline. The VR pipeline is designed to handle HS-20 loading with up to 10 feet of cover. A minimum of 5 feet of cover is required over the VR pipe inclusive of pavement thickness.
- Must observe all terms and conditions of the CTRWSC easement. please contact epcor for easement information.

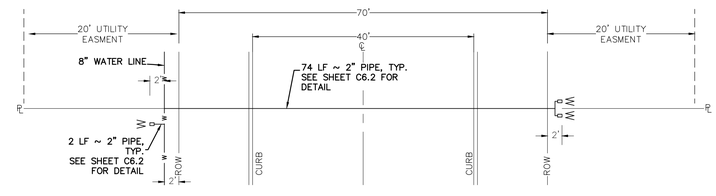
1. The Contractor is to submit a work plan for crossing the Vista Ridge pipe and notification per encroachment agreement before commencing work within or over Vista Ridge easement. the work plan will provide details on construction methods, pipe protection, restoration, and coordination with CTRWSC. the work plan require written approval by CTRWSC 14 days before working within or crossing the Vista Ridge easement.
2. The work plan must provide a crossing plan that clearly shows designated areas where heavy equipment will cross over the Vista Ridge easement and provide details for pipeline protection including the associated fiber optic and cathodic protection infrastructure. The Contractor will clearly delineate crossing locations in the field using construction fence or similar materials.
3. No mechanical excavation within ten feet (10') of the centerline of the Vista Ridge pipeline unless approved in writing by CTRWSC. Any agreement should be part of the work plan provided by The Contractor.
4. CTRWSC will designate a representative for field observation during any crossing of the VR line. The contractor will coordinate with CTRWSC's designated representative 3 business days before crossing the VR pipeline. The Contractor will make arrangements with CTRWSC to pay for observer time including travel time to the site.
5. No temporary stockpiling or stationing of materials, equipment or facilities within easement.
6. If crossing over the VR pipeline, The Contractor will have field verified both the fiber optic line and the water line.
7. The Contractor is to provide protection from equipment and trucks traveling over vista ridge pipe which meets or exceed HS-20 loading criteria.
8. For crossing under the VR pipeline, a trenchless method is required. Trenchless methods still require an observer to be onsite. Additionally, Contractor will use a hydrovac or similar piece of equipment to create a hole alongside of the VR pipeline so that the observer and contractor can witness the auger or drill passing under the bottom of the VR pipeline at the appropriate spacing.
9. If metallic pipe such as ductile iron crosses the Vista Ridge easement, Engineer will provide cathodic protection devices that protect the Vista Ridge pipe. Details to be coordinated with CTRWSC.
10. Contractor shall take necessary precaution to protect Vista Ridge cathodic protection system components and pipe protective coating.
11. Backfill according to typical trench backfill detail, see sheet C6.1.



WATERLINE ADJUSTMENT DETAIL
N.T.S



WATERLINE ADJUSTMENT DETAIL
N.T.S



LATERAL DETAIL
N.T.S

CCSUD PIPES AND STRUCTURES TOTAL

ITEM	QTY	UNIT
8" PIPE	1494	LF
DOMESTIC METER 3/4"	30	EA
IRRIGATION METER	0	EA
FIRE HYDRANTS	2	EA
FIRE LINE	0	LF

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

HMT ENGINEERING & SURVEYING
290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

OVERALL WATER PLAN

NAVARRO SUBDIVISION UNIT 9

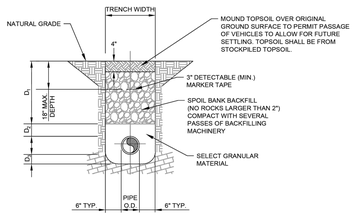
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C6.0

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\03s\337.116_WATER OVERALL.dwg User: chrisfonc Nov 20, 2025 - 12:05pm

Date: Oct 11, 2023, 9:46am User ID: kvogler
File: S:\Standards\02 Details\07 Utility Details\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Typ Trench Backfill.dwg



	D_1	D_2	D_3
4" OR SMALLER	36"	6"	4"
6"-8"	30"	12"	6"
12" OR LARGER	42"	12"	6"

TRENCHING NOTES

1. ADEQUATE BARRICADES & WARNING SIGNS SHALL BE ERECTED BEFORE ANY WORK IS STARTED IN PUBLIC RIGHT-OF-WAY.
2. REFER TO SPECIFICATIONS FOR ANY SPECIAL REQUIREMENTS OR CONDITIONS.
3. BACKFILL SHALL BE COMPLETED IMMEDIATELY AFTER PIPELINE LAYING WITHIN PUBLIC RIGHT-OF-WAYS OR CROSSING PUBLIC RIGHT-OF-WAYS & PRIVATE DRIVEWAYS.

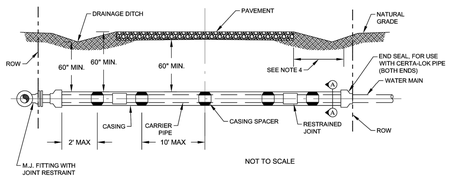
TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEM, SHORING OR SIDE SLOPE TO BE IN ACCORDANCE WITH OSHA STANDARDS.
2. TRENCH SAFETY SYSTEM PLAN TO BE PROVIDED BY CONTRACTOR PRIOR TO CONSTRUCTION.

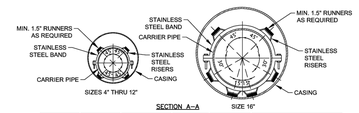
NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	TYPICAL TRENCH BACKFILL DETAIL	M&S ENGINEERING ELECTRICAL | CIVIL | MEP	JUNE 2015	NOV 2021
			SHEET 1 OF 1	

Date: Jan 20, 2025, 8:45am User ID: kvogler
File: S:\Standards\02 Details\07 Utility Details\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Casing Detail.dwg



NOT TO SCALE



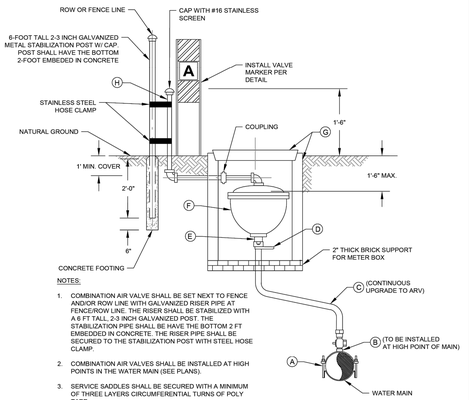
Carrier Pipe (DR 18)	Casing Size	Steel Casing (0.375 IN Wall)	PVC Casing (DR 25)	HDPE Casing (DR 21)	Casing Spacers	
Nominal Size (IN)		Inside Diameter (IN)			Min. Band Width (IN)	No. of Runners Per Tie
4	16	15.25	15.92	13.755	7	2 TOP, 2 BOTTOM
6	16	15.25	15.92	15.643	7	2 TOP, 2 BOTTOM
8	24	23.25	23.61	19.419	7	2 TOP, 2 BOTTOM
12	24	23.25	23.61	23.195	7	2 TOP, 2 BOTTOM
16	30	29.25	29.29	28.769	7	2 TOP, 4 BOTTOM

NOTES:

1. POLYVINYL CHLORIDE (PVC) CARRIER PIPE THAT IS 4-INCH IN DIAMETER SHALL BE C900 DR 18, FULLY RESTRAINED THROUGH THE CASING. POLYVINYL CHLORIDE (PVC) CARRIER PIPE SHALL BE CERTA-LOK C900/RJIB (DR 18) FOR 6-INCH TO 12-INCH AND CERTA-LOK C905/RJ (OR APPROVED EQUAL) FOR 16-INCH TO 24-INCH PIPE DIAMETERS.
2. STEEL CASING SHALL BE STANDARD WEIGHT OR HEAVIER PIPE CONFORMING TO ASTM A-36, ASTM A-568, ASTM A-135, ASTM A-139 OR OTHER ACCEPTABLE STANDARD SPECIFICATION. PIPE JOINTS SHALL BE WELDED IN ACCORDANCE WITH AWWA C-206. HDPE CASING MAY BE USED IN LIEU OF STEEL CASING PER FIGURE: 43 TAC §21.40(a)(2)(A).
3. SUBSEQUENT CASING SPACERS ARE REQUIRED FOR 4" TO 14" PIPE SIZES TO BE AT 10 FEET APART AND FOR 16" TO 30" PIPE SIZES TO BE AT 8 FEET APART WITHIN THE CASING WITH AT LEAST 3 SPACERS PER JOINT ON PIPE. ONE CASING SPACER SHALL BE REPLACED WITHIN 2 FEET OF ENDS OF CASING FOR ALL PIPE SIZES.
4. LENGTHS OF ENCASEMENT SHALL BE PER TAC §21.40(a)(2)(A). THE LENGTHS OF ANY ENCASEMENT SHALL EXTEND, AS APPLICABLE, TO WITHIN 5 FEET OF THE RIGHT OF WAY, TWO FEET OF A CONNECTING LONGITUDINAL LINE, OR FIVE FEET BEYOND THE FACE OF THE CURB, WHICHEVER IS GREATEST. THESE LENGTHS OF ENCASEMENT INCLUDE AREAS UNDER CENTER MEDIANS AND OUTER SEPARATIONS.
5. CASING SPACERS SHALL BE MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 14 GAUGE THICKNESS.
6. CASING SPACERS SHALL HAVE A SYNTHETIC RUBBER OR PVC LINER TO INSULATE THE PIPELINE FROM THE SPACER.
7. CASING SPACERS SHALL HAVE A MIN. 1.5" WIDE GLASS REINFORCED PLASTIC OR UHMW POLYMER RUNNERS TO INSULATE THE SPACER FROM THE CASING.
8. CASING END SEALS SHALL BE MADE OF 1/8" THICK NEOPRENE RUBBER AND INCLUDE 1/2" WIDE T-304 STAINLESS STEEL BANDINGS.

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	CASING DETAIL	M&S ENGINEERING ELECTRICAL | CIVIL | MEP	JUNE 2015	JULY 2024
			SHEET 1 OF 1	

Date: Mar 31, 2021, 10:39am User ID: kvogler
File: S:\Standards\02 Details\07 Utility Details\CRYSTAL CLEAR SUD\2018 CCSUD Wtr Details\Comb Air Valve Detail – 2018.dwg



NOTES:

1. COMBINATION AIR VALVE SHALL BE SET NEXT TO FENCE AND/OR ROW LINE WITH GALVANIZED RISER PIPE AT FENCE/ROW LINE. THE RISER SHALL BE STABILIZED WITH A 6 FT TALL, 2-3 INCH GALVANIZED POST. THE STABILIZATION PIPE SHALL BE HAVE THE BOTTOM 2 FT EMBEDDED IN CONCRETE. THE RISER PIPE SHALL BE SECURED TO THE STABILIZATION POST WITH STEEL HOSE CLAMP.
2. COMBINATION AIR VALVES SHALL BE INSTALLED AT HIGH POINTS IN THE WATER MAIN (SEE PLANS).
3. SERVICE SADDLES SHALL BE SECURED WITH A MINIMUM OF THREE LAYERS CIRCUMFERENTIAL TURNS OF POLY TAPE.

TAP MATERIAL LIST		MATERIAL LIST SIZES	
LABEL	ITEM	1-INCH TAP	2-INCH TAP
A	APPROVED TAPPING SADDLE	1"	2"
B	CORPORATION STOP	1"	2"
C	CTS SDR9 HDPE TUBING	1"	2"
D	BRASS BALL VALVE WITH LEVER	1"	2"
E	BRASS NIPPLE THREADED	1"	2"
F	COMBINATION AIR VALVE	PER AEL*	
G	METER BOX AND LID	DFW3830FD OR DFW2836FD**	
H	GALVANIZED IRON PIPE AND FITTINGS	1"	2"

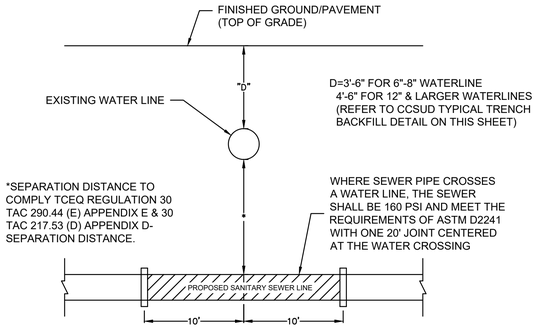
* AEL = APPROVED EQUIPMENT LIST
** METER BOX TO BE INSTALLED AS NECESSARY TO COVER FULL DEPTH OF COMBINATION AIR RELEASE VALVE.

NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	COMBINATION AIR VALVE DETAIL	M&S ENGINEERING CIVIL | ELECTRICAL | STRUCTURAL | MEP	JUNE 2015	OCTOBER 2020
			SHEET 1 OF 1	

CONSTRUCTION NOTES:

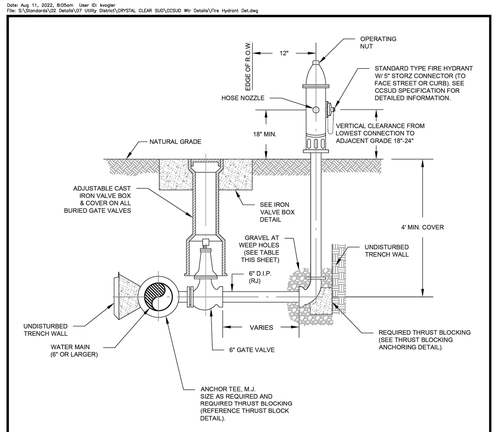
1. NO VALVES, HYDRANTS, CLEAN-OUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS..
2. ALL DIMENSIONS ARE FROM FACE OF CURB.
3. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.



TYPICAL SANITARY SEWER/WATER CROSSING DETAIL

NOT TO SCALE

Date: Aug 11, 2022, 8:05am User ID: kvogler
File: S:\Standards\02 Details\07 Utility Details\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Fire Hydrant Det.dwg



GRAVEL AT WEEPHOLE	
LENGTH OF HYDRANT RISER	CU. FT. OF GRAVEL REQUIRED
3'	2.5
4'	3
5'	3.5
6'	4
>6'	TBD BY CCSUD

NOTE:

1. THE EARTHBEARING SURFACE SHALL BE THE UNDISTURBED TRENCH WALL.
2. ALL PIPE JOINTS SHALL BE KEPT FREE FROM CONCRETE.
3. POLYWRAP SHALL BE SECURED WITH A MINIMUM OF THREE CIRCUMFERENTIAL TURNS OF POLY TAPE.
4. 12"x12"x4" THICK CONCRETE BLOCKS SHALL BE INSTALLED DIRECTLY UNDER ALL VALVES, FITTINGS, ETC.

NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	FIRE HYDRANT ASSEMBLY DETAIL (NEW BRAUNFELS)	M&S ENGINEERING ELECTRICAL | CIVIL | MEP	JUNE 2015	NOV 2021
			SHEET 1 OF 1	

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

WATER DETAILS (1 OF 2)

NAVARRO SUBDIVISION UNIT 9

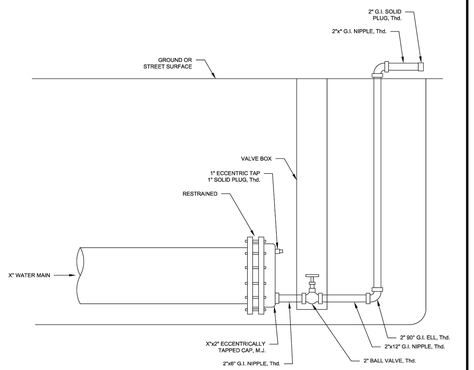
NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C6.1

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\(05)\337.116_WATER DETAILS.dwg User: christianc Nov 20, 2025 - 12:06pm

Date: Oct 12, 2023, 2:41pm User ID: kvogler
File: S:\Standards\02 Details\07 Utility District\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Flush Valve Detail.dwg

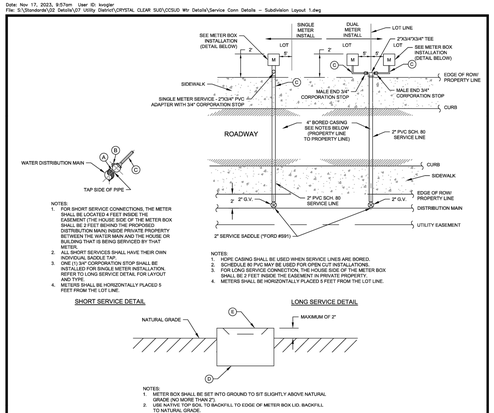


NOTE:
1. BURIED PIPING, FITTINGS, AND FITTINGS JOINTS SHALL BE WRAPPED IN POLYWRAP.
2. THE EARTHBEARING SURFACE SHALL BE THE UNDISTURBED TRENCH WALL.
3. ALL PIPE JOINTS SHALL BE KEPT FREE FROM CONCRETE.
4. POLYWRAP SHALL BE SECURED WITH A MINIMUM OF THREE CIRCUMFERENTIAL TURNS OF POLY TAPE.

NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	FLUSH VALVE DETAIL	M&S ENGINEERING ELECTRICAL | CIVIL | MEP TBPELS FIRM # F-12084 | TBPELS FIRM #20220850 WWW.MSENGR.COM | (830) 228-5446	OCTOBER 2020	OCTOBER 2023
			SHEET 1 OF 1	

Date: Nov 17, 2023, 9:57am User ID: kvogler
File: S:\Standards\02 Details\07 Utility District\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Service Conn Details – Subdivision Layout 1.dwg



NOTES:
1. FOR SHORT SERVICE CONNECTIONS, THE METER SHALL BE LOCATED 4 FEET INSIDE THE EASEMENT (THE HOUSE SIDE OF THE METER BOX SHALL BE 2 FEET BEHIND THE PROPOSED DISTRIBUTION MAIN) INSIDE PRIVATE PROPERTY ENSURING THAT WATER MAIN AND THE HOUSE OR BUILDING THAT IS BEING SERVICED BY THE METER.
2. ALL SHORT SERVICES SHALL HAVE THEIR OWN INDIVIDUAL SADDLE TAP.
3. ALL SHORT SERVICE CORPORATION STOP SHALL BE INSTALLED FOR SINGLE METER INSTALLATION. REFER TO LONG SERVICE DETAIL FOR LAYOUT AND TYPE.
4. METERS SHALL BE HORIZONTALLY PLACED 5 FEET FROM THE LOT LINE.

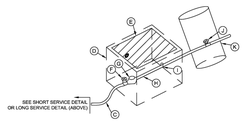
SHORT SERVICE DETAIL

NOTES:
1. HDPE CASING SHALL BE USED WHEN SERVICE LINES ARE BORED.
2. SCH 40 PVC MAY BE ALLOWED FOR OPEN CUT INSTALLATIONS.
3. FOR LONG SERVICE CONNECTIONS, THE METER BOX SHALL BE 2 FEET INSIDE THE EASEMENT (TOWARDS PRIVATE PROPERTY)
4. METERS SHALL BE HORIZONTALLY PLACED 5 FEET FROM THE LOT LINE.

LONG SERVICE DETAIL

NOTES:
1. METER BOX SHALL BE SET INTO GROUND TO 0/T SLIGHTLY ABOVE NATURAL GRADE (NO MORE THAN 2").
2. USE NATIVE TOP SOIL TO BACKFILL TO EDGE OF METER BOX I.O. BACKFILL TO NATURAL GRADE.

METER BOX PROFILE



MATERIAL LIST
A. 3/4" SERVICE SADDLE FORD #S91 OR SMITH-BLAIR MODEL 317
B. 3/4" CORP. STOP (I.P. x COMP.) FORD #FB1100-3-G-NL
C. 3/4" POLYETHYLENE AWWA, CI/DI-200 PSI
D. PLASTIC METER BOX, MODEL NO. DFW1300.12.1C OR; DFW1600.12.1C
E. METER BOX LID, MODEL NO. DFW1300.12.LID OR DFW1600.1C.LID
F. 1" BALL VALVE, (MIP x COMP.) x COMP.) FORD #BA43-332W-G-NL
G. 5/8"x3/4" WATER METER (BY CCSUD)
H. 3/4" DUAL CHECK VALVE (METER x I.P.) FORD #HHCH1-323 (BY OWNER)
I. SERVICE LINE (BY OWNER)
J. CUSTOMER SHUT OFF VALVE (BY OWNER) FORD #644-333-NL
K. 7-INCH ROUND VALVE BOX WITH REMOVABLE LID (BY OWNER)

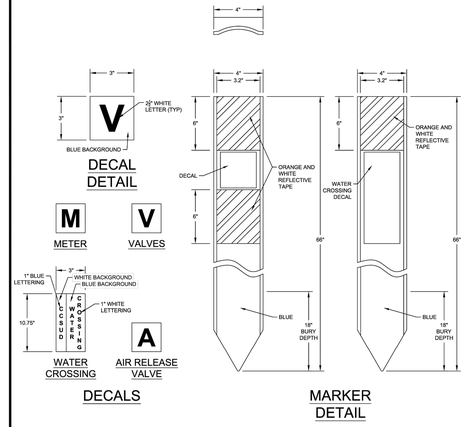
*MATERIALS SHALL BE PER THE APPROVED EQUIPMENT LIST (AEL) OR APPROVED EQUIVALENT.

METER BOX INSTALLATION DETAIL

NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	SERVICE CONNECTION DETAIL KYNDWOOD SUBDIVISION LAYOUT	M&S ENGINEERING ELECTRICAL | CIVIL | MEP TBPELS FIRM # F-12084 | TBPELS FIRM #20220850 WWW.MSENGR.COM | (830) 228-5446	FEBRUARY 2022	NOV 2022
			SHEET 1 OF 1	

Date: Nov 13, 2019, 9:03am User ID: kvogler
File: S:\Standards\DETAILS\CRYSTAL CLEAR SUD\2018 CCSUD Wtr Details\Marker Details.dwg



NOTES:
1. MARKERS SHALL BE 66" COMPOSITE POSTS SIMILAR TO RHINO FIBERCURVE COMPOSITE MARKER POST.
2. MARKERS SHALL BE PLACED AT ALL GATE VALVES, FLUSHING VALVES, & AIR RELEASE VALVES PER ITEM DETAIL.
3. MARKERS SHALL BE PLACED AT WATER METERS AS SPECIFIED ON PLANS
4. PIPELINE MARKERS SHALL BE PLACED ON R.O.W./FENCE LINE AT ALL ROAD CROSSINGS.

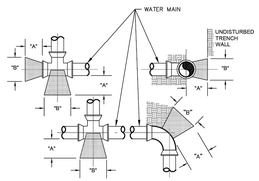
NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	MARKER DETAILS	M&S ENGINEERING CIVIL | ELECTRICAL | STRUCTURAL | MEP TBPELS FIRM # F-12084 | TBPELS FIRM #20220850 WWW.MSENGR.COM | (830) 228-5446	JUNE 2015	NOVEMBER 2019
			SHEET 1 OF 1	

Date: Dec. 10, 2020, 3:16pm User ID: gshorp
File: S:\Standards\02 Details\07 Utility District\CRYSTAL CLEAR SUD\2018 CCSUD Wtr Details\Thrust Block Anchoring Det.dwg

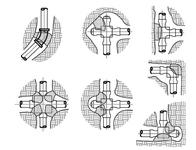
PIPE SIZE	DIMENSION "B" (SQUARE) PLUGS & TEES	90° BENDS	45° BENDS	22 1/2° BENDS	VALVES
4"-6"	1'-3"	1'-6"	1'-0"	9"	1'-3"
8"	1'-9"	2'-0"	1'-6"	1'-0"	1'-6"
10"	2'-10"	2'-6"	1'-9"	1'-3"	2'-0"
12"	2'-6"	3'-0"	2'-3"	1'-6"	2'-3"
16"	3'-3"	4'-0"	2'-9"	2'-0"	2'-9"
20"	3'-9"	4'-6"	3'-3"	2'-3"	3'-3"

DIMENSION "A" SHALL BE A MINIMUM OF 1'-0" BUT IS TO BE INCREASED WHERE NECESSARY TO PROVIDE BEARING AGAINST UNDISTURBED TRENCH WALL.



THRUST BLOCK DIMENSIONING

NOTES:
1. THE EARTHBEARING SURFACE SHALL BE THE UNDISTURBED TRENCH WALL.
2. ALL PIPE JOINTS SHALL BE KEPT FREE FROM CONCRETE.
3. ALL THRUST BLOCKS SHALL CONTAIN A MINIMUM OF 1 1/2 CUBIC YARDS OF CONCRETE.
4. CONCRETE SHALL BE 2000 P.S.I. AT 28 DAYS MINIMUM.
5. ALL FITTINGS AND FITTING JOINTS MUST BE WRAPPED W/ POLYWRAP. POLYWRAP SHALL BE SECURED WITH A MINIMUM OF THREE CIRCUMFERENTIAL TURNS OF POLY TAPE.
6. 12"x12"x4" THICK CONCRETE BLOCKS SHALL BE INSTALLED DIRECTLY UNDER ALL VALVES, FITTINGS, ETC.

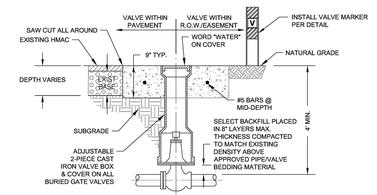


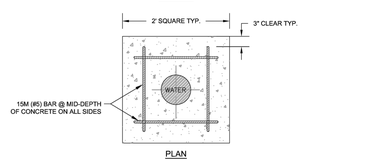
THRUST BLOCK ANCHORING DETAIL

NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
	THRUST BLOCK ANCHORING DETAILS	M&S ENGINEERING CIVIL | ELECTRICAL | STRUCTURAL | MEP	JUNE 2015	DECEMBER 2020
			SHEET 1 OF 1	

Date: Jan 09, 2020, 8:18am User ID: gshorp
File: S:\Standards\DETAILS\CRYSTAL CLEAR SUD\2018 CCSUD Wtr Details\Typ Iron VA Box Det.dwg



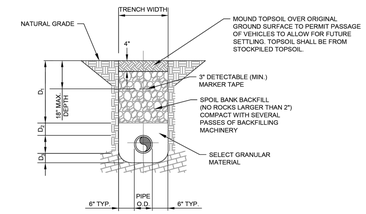


NOTES:
1. VALVE BOXES SHALL BE FITTED WITH PLASTIC VALVE ID TAGS (BLUE EMEDCO 3-1/2" X 2-3/4") INDICATING OWNER (CCSUD) VALVE SIZE, YEAR OF INSTALLATION AND # OF TURNS TO OPEN.
2. SUBGRADE SHALL BE COMPACTED AS PER SPECIFICATIONS
3. VALVE CASTINGS SHALL BE ADJUSTED TO GRADE AFTER FINAL LIFT OF OVERLAY IS IN PLACE.
4. CLEAN VALVE BOX OF ALL DEBRIS DOWN TO THE BASE OF THE VALVE.
5. REMOVE EXISTING RISER PIPE DOWN 18" AND REPLACE TO THE NEW ELEVATION USING NEW PIPE AND A COLLAR CASTING.
6. WHEN CAST IRON CASTINGS TO BE REMOVED REQUIRE EXCAVATION GREATER THAN 20" DEEP, CONTRACTOR MAY ELECT TO FILL EXCAVATION WITH CONTROLLED LOW STRENGTH MATERIAL TO THE UNDERSIDE OF THE CONCRETE. PAVEMENT PATCH IN LIEU OF COMPACTED BACKFILL.
7. REINFORCING STEEL SHALL MEET SPECIFICATIONS.
8. VALVE BOXES MUST BE INSTALLED IN A STRAIGHT, VERTICAL POSITION.
9. VALVE MARKERS SHALL BE INSTALLED BEHIND EACH VALVE BOX WHEN VALVE IS LOCATED WITHIN EASEMENT OR R.O.W.

NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	TYPICAL IRON VALVE BOX DETAILS	M&S ENGINEERING CIVIL | ELECTRICAL | STRUCTURAL | MEP TBPELS FIRM # F-12084 | TBPELS FIRM #20220850 WWW.MSENGR.COM | (830) 228-5446	JUNE 2015	AUGUST 2018
			SHEET 1 OF 1	

Date: Oct 11, 2022, 9:46am User ID: kvogler
File: S:\Standards\02 Details\07 Utility District\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Typ Trench Backfill.dwg



	D_1	D_2	D_3
4" OR SMALLER	36"	6"	4"
6"-8"	30"	12"	6"
12" OR LARGER	42"	12"	6"

TRENCHING NOTES

1. ADEQUATE BARRICADES & WARNING SIGNS SHALL BE ERECTED BEFORE ANY WORK IS STARTED IN PUBLIC RIGHT-OF-WAY.
2. REFER TO SPECIFICATIONS FOR ANY SPECIAL REQUIREMENTS OR CONDITIONS.
3. BACKFILL SHALL BE COMPLETED IMMEDIATELY AFTER PIPELINE LAYING WITHIN PUBLIC RIGHT-OF-WAYS OR CROSSING PUBLIC RIGHT-OF-WAYS & PRIVATE DRIVEWAYS.

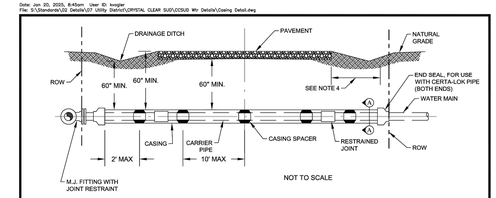
TRENCH SAFETY NOTES

1. TRENCH SAFETY SYSTEM, SHORING OR SIDE SLOPE TO BE IN ACCORDANCE WITH OSHA STANDARDS.
2. TRENCH SAFETY SYSTEM PLAN TO BE PROVIDED BY CONTRACTOR PRIOR TO CONSTRUCTION.

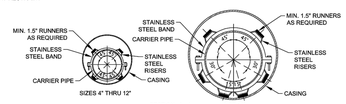
NOT TO SCALE

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	TYPICAL TRENCH BACKFILL DETAIL	M&S ENGINEERING ELECTRICAL | CIVIL | MEP TBPELS FIRM # F-12084 | TBPELS FIRM #20220850 WWW.MSENGR.COM | (830) 228-5446	JUNE 2015	NOV 2021
			SHEET 1 OF 1	

Date: Jan 20, 2020, 8:45am User ID: kvogler
File: S:\Standards\02 Details\07 Utility District\CRYSTAL CLEAR SUD\CCSUD Wtr Details\Casing Detail.dwg



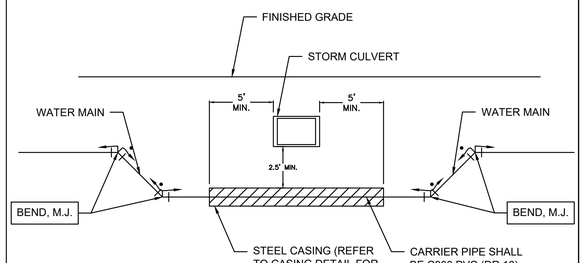
NOT TO SCALE



Carrier Pipe (DR 18)	Casing Size	Steel Casing (0.375 IN Wall)	PVC Casing (DR 25)	HDPE Casing (DR 21)	Casing Spacers	
Nominal Size (IN)		Inside Diameter (IN)			Min. Band Width (IN)	No. of Runners Per Tie
4	16	15.25	15.92	13.755	7	2 TOP, 2 BOTTOM
6	16	15.25	15.92	15.643	7	2 TOP, 2 BOTTOM
8	24	23.25	23.61	19.419	7	2 TOP, 2 BOTTOM
12	24	23.25	23.61	23.195	7	2 TOP, 2 BOTTOM
16	30	29.25	29.29	28.769	7	2 TOP, 4 BOTTOM

NOTES:
1. POLYVINYL CHLORIDE (PVC) CARRIER PIPE THAT IS 4-INCH IN DIAMETER SHALL BE C900 DR 18, FULLY RESTRAINED THROUGH THE CASING. POLYVINYL CHLORIDE (PVC) CARRIER PIPE SHALL BE CERTA-LOK C900/RJIB (DR 18) FOR 6-INCH TO 12-INCH AND CERTA-LOK C905/RJ (OR APPROVED EQUAL) FOR 16-INCH TO 24-INCH PIPE DIAMETERS.
2. STEEL CASING SHALL BE STANDARD WEIGHT OR HEAVIER PIPE CONFORMING TO ASTM A-36, ASTM A-568, ASTM A-135, ASTM A-139 OR OTHER ACCEPTABLE STANDARD SPECIFICATION. PIPE JOINTS SHALL BE WELDED IN ACCORDANCE WITH AWWA C-206. HDPE CASING MAY BE USED IN LIEU OF STEEL CASING PER FIGURE: 43 TAC §31.43(k)(2)(A).
3. SUBSEQUENT CASING SPACERS ARE REQUIRED FOR 4" TO 14" PIPE SIZES TO BE AT 10 FEET APART AND FOR 16" TO 30" PIPE SIZES TO BE AT 8 FEET APART WITHIN THE CASING WITH AT LEAST 3 SPACERS PER JOINT ON PIPE. ONE CASING SPACER SHALL BE REPLACED WITHIN 2 FEET OF ENDS OF CASING FOR ALL PIPE SIZES.
4. LENGTHS OF ENCASEMENT SHALL BE PER TAC §31.4(x)(2)(A). THE LENGTHS OF ANY ENCASEMENT SHALL EXTEND, AS APPLICABLE, TO WITHIN 5 FEET OF THE RIGHT OF WAY, TWO FEET OF A CONNECTING LONG/TUDINAL LINE, OR FIVE FEET BEYOND THE FACE OF THE CURB, WHICHEVER IS GREATEST. THESE LENGTHS OF ENCASEMENT INCLUDE AREAS UNDER CENTER MEDIANS AND OUTER SEPARATIONS.
5. CASING SPACERS SHALL BE MADE FROM T-304 STAINLESS STEEL OF A MINIMUM 14 GAUGE THICKNESS.
6. CASING SPACERS SHALL HAVE A SYNTHETIC RUBBER OR PVC LINER TO INSULATE THE PIPELINE FROM THE SPACER.
7. CASING SPACERS SHALL HAVE A MIN. 1.5" WIDE GLASS REINFORCED PLASTIC OR UHMW POLYMER RUNNERS TO INSULATE THE SPACER FROM THE CASING.
8. CASING END SEALS SHALL BE MADE OF 1/8" THICK NEOPRENE RUBBER AND INCLUDE 1/2" WIDE T-304 STAINLESS STEEL BANDINGS.

PROPERTY OF			APPROVED	REVISION
CRYSTAL CLEAR SPECIAL UTILITY DISTRICT	CASING DETAIL	M&S ENGINEERING ELECTRICAL | CIVIL | MEP TBPELS FIRM # F-12084 | TBPELS FIRM #20220850 WWW.MSENGR.COM | (830) 228-5446	JUNE 2015	JULY 2024
			SHEET 1 OF 1	



290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

WATER DETAILS (2 OF 2)

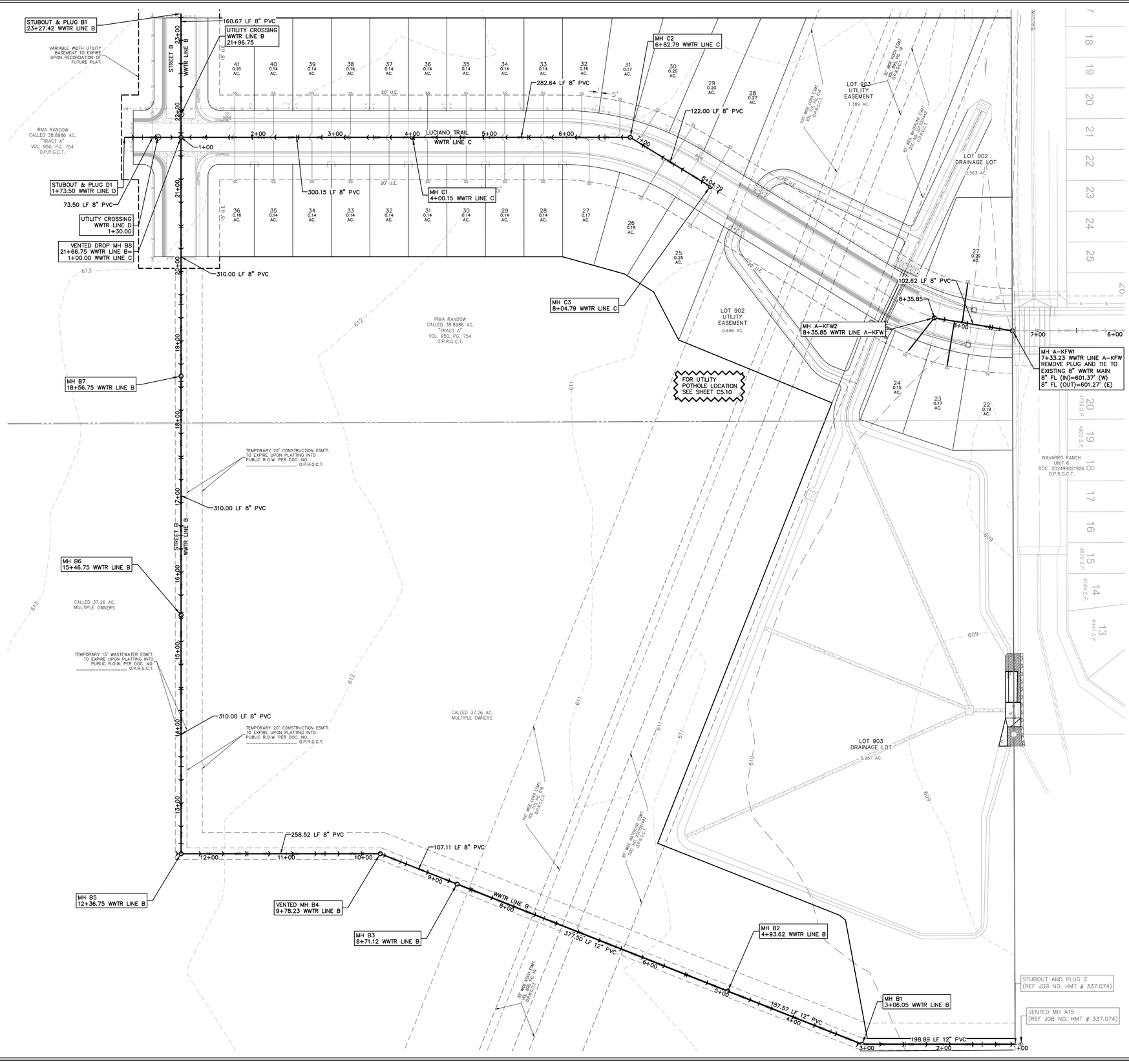
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C6.2

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_WATER DETAILS.dwg User: christianc Nov 20, 2025 - 12:06pm



LEGEND

- EXISTING CONTOURS
- EXISTING CONTOURS
- BUILDING SETBACK LINE
- UTILITY EASEMENT
- DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED 6" WASTEWATER SERVICE
- PROPOSED WATER LINE
- EXISTING GAS LINE
- UTILITY CROSSING

SCALE: 1" = 60'

ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.

NO VALVES, HYDRANTS, CLEANOUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, DRIVEWAYS, OR ROADWAYS. THE BUILDER AND/OR DEVELOPER WILL BE RESPONSIBLE FOR REPAIR TO ROADWAY AND UTILITY INFRASTRUCTURE IF PUBLIC UTILITIES ARE INSTALLED IMPROPERLY.

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN PROJECT INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN PROJECT INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF SEGUIN PROJECT INSPECTOR.

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

CONSTRUCTION NOTES:

1. NO VALVES, HYDRANTS, CLEAN-OUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL SEWER PIPE ASTM 3034 (115 PSI) SDR 26
3. ALL MANHOLES SHALL BE 48" DIAMETER, MINIMUM.
4. ALL RING AND COVER SHALL MEET CITY OF SEGUIN STANDARDS.
5. CONTRACTOR TO FIELD VERIFY EXISTING SANITARY SEWER TIE-INS AND CONSTRUCT SEWER FROM DOWNSTREAM TO UPSTREAM.
6. ALL DIMENSIONS ARE FROM FACE OF CURB.
7. MANHOLES MUST BE BOLTED UNLESS WAIVED BY UTILITY ENGINEER.
8. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
9. ALL SANITARY SEWER SERVICE LATERALS SHALL BE 6 INCH DIAMETER PER CITY OF SEGUIN STANDARDS.

SPECIAL UTILITY NOTES:

1. THE CONTRACTOR TO SUBMIT A WORK PLAN FOR CROSSING THE VISTA RIDGE PIPE AND NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. THE WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14 DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE
2. THE WORK PLAN MUST PROVIDE A CROSSING PLAN THAT CLEARLY SHOWS DESIGNATED AREAS WHERE HEAVY EQUIPMENT WILL CROSS OVER THE VISTA RIDGE EASEMENT AND PROVIDE DETAILS FOR PIPELINE PROTECTION INCLUDING THE ASSOCIATED FIBER OPTIC AND CATHODIC PROTECTION INFRASTRUCTURE. THE CONTRACTOR WILL CLEARLY DELINEATE CROSSING LOCATIONS IN THE FIELD USING CONSTRUCTION FENCE OR SIMILAR MATERIALS.
3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. THE CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3 BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
5. NO TEMPORARY STOCKPILING OR STATIONING OF MATERIALS, EQUIPMENT OR FACILITIES WITHIN EASEMENT.
6. IF CROSSING OVER THE VR PIPELINE, THE CONTRACTOR WILL HAVE FIELD VERIFIED BOTH THE FIBER OPTIC LINE AND THE WATER LINE.
7. THE CONTRACTOR IS TO PROVIDE PROTECTION FROM EQUIPMENT AND TRUCKS TRAVELING OVER VISTA RIDGE PIPE WHICH MEETS OR EXCEED HS-20 LOADING CRITERIA.
8. FOR CROSSING UNDER THE VR PIPELINE, A TRENCHLESS METHOD IS REQUIRED. TRENCHLESS METHODS STILL REQUIRE AN OBSERVER TO BE ONSITE. ADDITIONALLY, CONTRACTOR WILL USE A HYDROVAC OR SIMILAR PIECE OF EQUIPMENT TO CREATE A HOLE ALONGSIDE OF THE VR PIPELINE SO THAT THE OBSERVER AND CONTRACTOR CAN WITNESS THE AUGER OR DRILL PASSING UNDER THE BOTTOM OF THE VR PIPELINE AT THE APPROPRIATE SPACING.
9. IF METALLIC PIPE SUCH AS DUCTILE IRON CROSSES THE VISTA RIDGE EASEMENT, ENGINEER WILL PROVIDE CATHODIC PROTECTION DEVICES THAT PROTECT THE VISTA RIDGE PIPE. DETAILS TO BE COORDINATED WITH CTRWSC.
10. CONTRACTOR SHALL TAKE NECESSARY PRECAUTION TO PROTECT VISTA RIDGE CATHODIC PROTECTION SYSTEM COMPONENTS AND PIPE PROTECTIVE COATING.
11. BACKFILL ACCORDING TO EXHIBIT A-CROSSING EXAMPLE ON SHEET C7.05).

REFER TO THE COVER SHEET
FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
103964
LICENSED
PROFESSIONAL ENGINEER
11/20/2025

OVERALL WASTEWATER PLAN

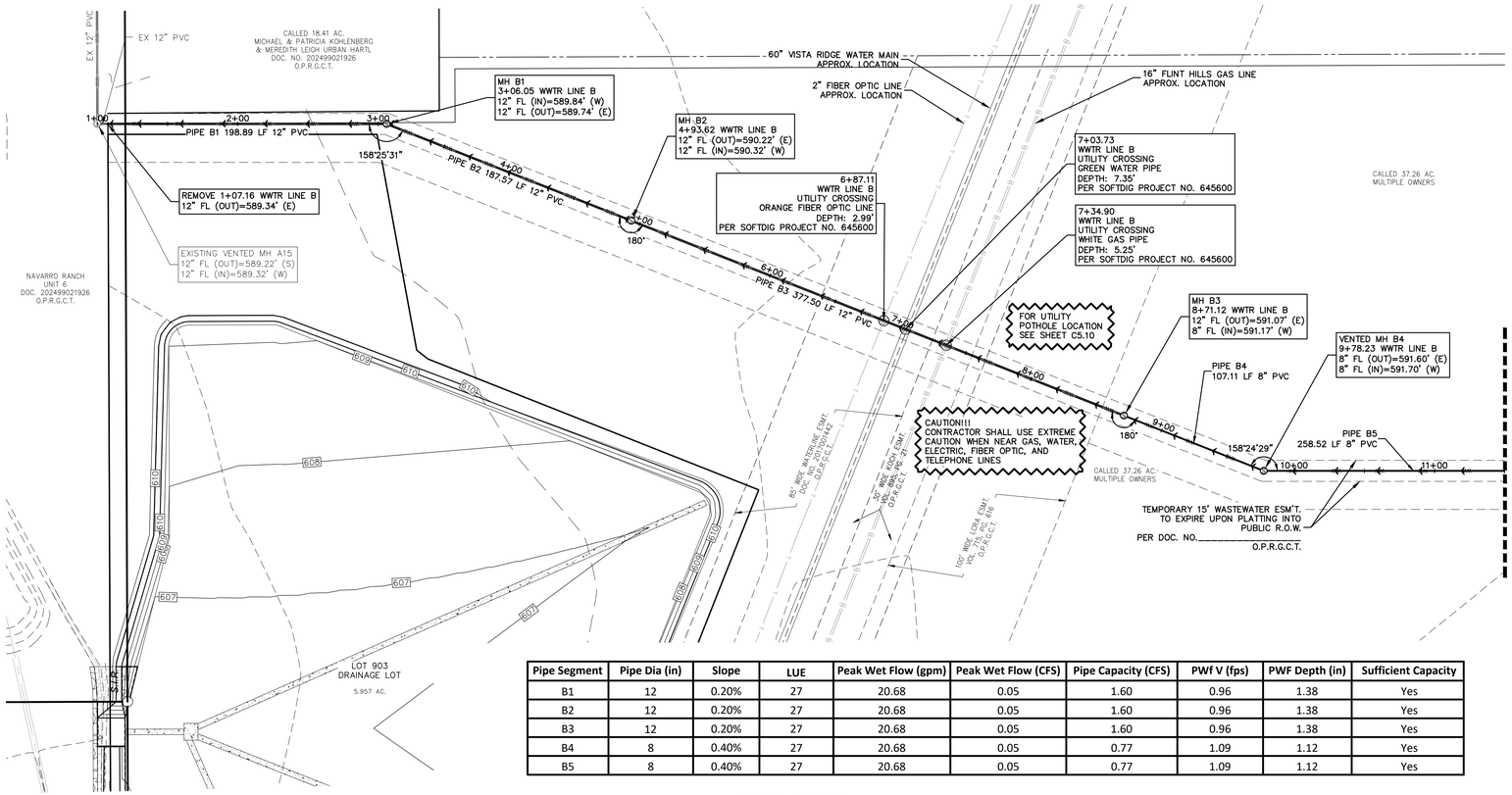
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE:	SEPTEMBER 2025
DRAWN BY:	RR
DESIGNED BY:	JK
REVIEWED BY:	ZJ
HMT PROJECT NO.:	337.116

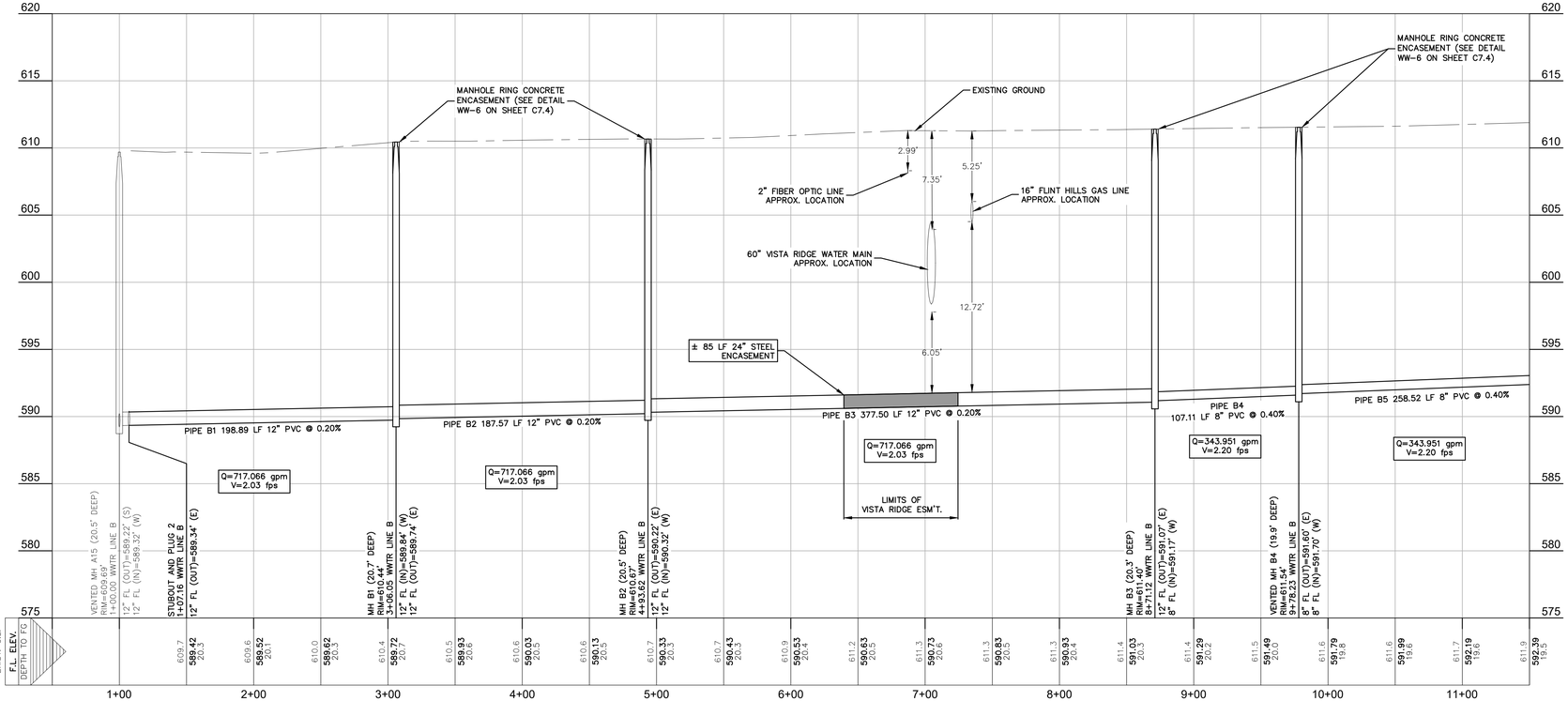
SHEET
C7.0

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_WWTR OVERALL.dwg User: chrisfons Nov 20, 2025 - 12:09pm



Pipe Segment	Pipe Dia (in)	Slope	LUE	Peak Wet Flow (gpm)	Peak Wet Flow (CFS)	Pipe Capacity (CFS)	PWf V (fps)	PWF Depth (in)	Sufficient Capacity
B1	12	0.20%	27	20.68	0.05	1.60	0.96	1.38	Yes
B2	12	0.20%	27	20.68	0.05	1.60	0.96	1.38	Yes
B3	12	0.20%	27	20.68	0.05	1.60	0.96	1.38	Yes
B4	8	0.40%	27	20.68	0.05	0.77	1.09	1.12	Yes
B5	8	0.40%	27	20.68	0.05	0.77	1.09	1.12	Yes

WWTR LINE B
0+50 – 11+50



UTILITY TRENCH COMPACTION

ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN STREET INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 100LF FOR EACH LIFT. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN STREET INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS.

DEEP TRENCH COMPACTION TESTING

CITY REQUIREMENTS FOR TESTING SHALL BE ADHERED TO, IN CASES WHERE TRENCH DEPTHS DO NOT ALLOW TECHNICIANS ACCESS, METHODS FOR TESTING SHALL BE PROPOSED AND APPROVED PRIOR TO CONSTRUCTION COMMENCING.

CONSTRUCTION NOTES:

1. NO VALVES, HYDRANTS, CLEAN-OUTS, ETC. SHALL BE CONSTRUCTED WITHIN CURBS, SIDEWALKS, OR DRIVEWAYS.
2. ALL SEWER PIPE ASTM 3034 (115 PSI) SDR 26
3. ALL MANHOLES SHALL BE 48" DIAMETER, MINIMUM.
4. ALL RING AND COVER SHALL MEET CITY OF SEGUIN STANDARDS.
5. CONTRACTOR TO FIELD VERIFY EXISTING SANITARY SEWER TIE-INS AND CONSTRUCT SEWER FROM DOWNSTREAM TO UPSTREAM.
6. ALL DIMENSIONS ARE FROM FACE OF CURB.
7. MANHOLES MUST BE BOLTED UNLESS WAIVED BY UTILITY ENGINEER.
8. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
9. ALL SANITARY SEWER SERVICE LATERALS SHALL BE 6 INCH DIAMETER PER CITY OF SEGUIN STANDARDS.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.
ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

CRYSTAL CLEAR SUD (WATER)	(830) 372-1031
CITY OF SEGUIN (SEWER)	(830) 401-2222
GUADALUPE VALLEY ELECTRIC COMPANY (ELECTRIC)	(830) 857-1200
TIME WARNER CABLE SPECTRUM	(830) 625-3408
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192(8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

CONTRACTOR SHALL REFERENCE GVEC UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

SPECIAL UTILITY NOTES:

1. THE CONTRACTOR TO SUBMIT A WORK PLAN FOR CROSSING THE VISTA RIDGE PIPE AND NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. THE WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14 DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE.
2. THE WORK PLAN MUST PROVIDE A CROSSING PLAN THAT CLEARLY SHOWS DESIGNATED AREAS WHERE HEAVY EQUIPMENT WILL CROSS OVER THE VISTA RIDGE EASEMENT AND PROVIDE DETAILS FOR PIPELINE PROTECTION INCLUDING THE ASSOCIATED FIBER OPTIC AND CATHODIC PROTECTION INFRASTRUCTURE. THE CONTRACTOR WILL CLEARLY DELINEATE CROSSING LOCATIONS IN THE FIELD USING CONSTRUCTION FENCE OR SIMILAR MATERIALS.
3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. THE CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3 BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
5. NO TEMPORARY STOCKPILING OR STATIONING OF MATERIALS, EQUIPMENT OR FACILITIES WITHIN EASEMENT.
6. IF CROSSING OVER THE VR PIPELINE, THE CONTRACTOR WILL HAVE FIELD VERIFIED BOTH THE FIBER OPTIC LINE AND THE WATER LINE.
7. THE CONTRACTOR IS TO PROVIDE PROTECTION FROM EQUIPMENT AND TRUCKS TRAVELING OVER VISTA RIDGE PIPE WHICH MEETS OR EXCEED HS-20 LOADING CRITERIA.
8. FOR CROSSING UNDER THE VR PIPELINE, A TRENCHLESS METHOD IS REQUIRED. TRENCHLESS METHODS STILL REQUIRE AN OBSERVER TO BE ONSITE. ADDITIONALLY, CONTRACTOR WILL USE A HYDROVAC OR SIMILAR PIECE OF EQUIPMENT TO CREATE A HOLE ALONGSIDE OF THE VR PIPELINE SO THAT THE OBSERVER AND CONTRACTOR CAN WITNESS THE AUGER OR DRILL PASSING UNDER THE BOTTOM OF THE VR PIPELINE AT THE APPROPRIATE SPACING.
9. IF METALLIC PIPE SUCH AS DUCTILE IRON CROSSES THE VISTA RIDGE EASEMENT, ENGINEER WILL PROVIDE CATHODIC PROTECTION DEVICES THAT PROTECT THE VISTA RIDGE PIPE. DETAILS TO BE COORDINATED WITH CTRWSC.
10. CONTRACTOR SHALL TAKE NECESSARY PRECAUTION TO PROTECT VISTA RIDGE CATHODIC PROTECTION SYSTEM COMPONENTS AND PIPE PROTECTIVE COATING.
11. BACKFILL ACCORDING TO EXHIBIT A-CROSSING EXAMPLE ON SHEET C7.05).

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290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
No. 134964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

WASTEWATER LINE B PLAN & PROFILE (1 OF 2)

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C7.1

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\03a\337.116_WWTR_LINE B.dwg User: christianc Nov 20, 2025 - 12:06pm

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FOR BENCHMARK INFORMATION.

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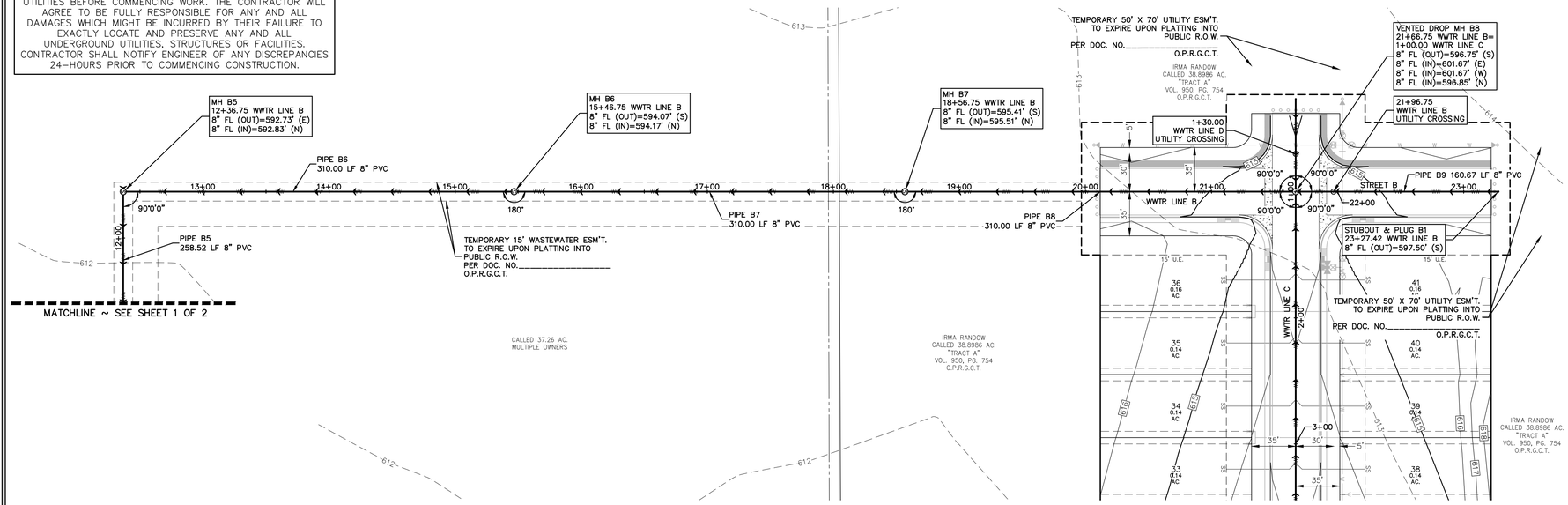
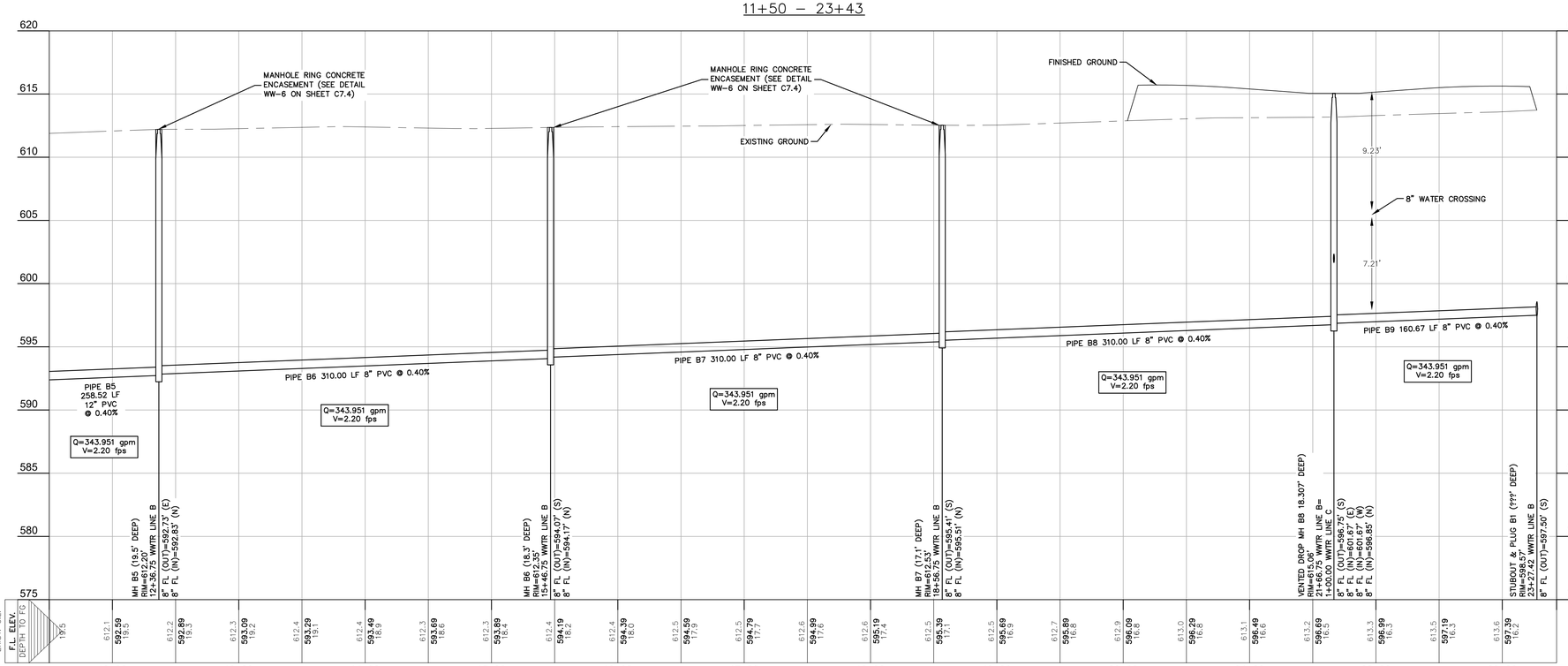
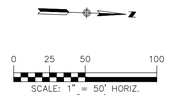


Pipe Segment	Pipe Dia (in)	Slope	LUE	Peak Wet Flow (gpm)	Peak Wet Flow (CFS)	Pipe Capacity (CFS)	PWf V (fps)	PWF Depth (in)	Sufficient Capacity
B6	8	0.40%	27	20.68	0.05	0.77	1.09	1.12	Yes
B7	8	0.40%	27	20.68	0.05	0.77	1.09	1.12	Yes
B8	8	0.40%	27	20.68	0.05	0.77	1.09	1.12	Yes
B9	8	0.40%	0	0.00	0.00	0.77	0.99	0.74	Yes

WWTR LINE B
11+50 – 23+43





LEGEND

- EXISTING CONTOURS
- EXISTING CONTOURS
- B.L. BUILDING SETBACK LINE
- U.E. UTILITY EASEMENT
- D.E. DRAINAGE EASEMENT
- EXISTING WASTEWATER LINE
- PROPOSED WASTEWATER MANHOLE
- PROPOSED WASTEWATER LINE
- PROPOSED 6" WASTEWATER SERVICE
- PROPOSED WATER LINE
- EXISTING GAS LINE
- UTILITY CROSSING

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ALL UTILITY TRENCH COMPACTION TESTS WITHIN THE STREET PAVEMENT/SIDEWALK SECTION SHALL BE THE RESPONSIBILITY OF THE DEVELOPER'S GEO-TECHNICAL ENGINEER. FILL MATERIAL SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED TWELVE INCHES (12") LOOSE. DETERMINE THE MAXIMUM LIFT THICKNESS BASED ON THE ABILITY OF THE COMPACTING OPERATION AND EQUIPMENT USED TO MEET THE REQUIRED DENSITY. EACH LAYER OF MATERIAL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY AND TESTED FOR DENSITY AND MOISTURE IN ACCORDANCE WITH TEST METHODS TEX-113-E, TEX-114-E, TEX-115-E. THE NUMBER AND LOCATION OF REQUIRED TESTS SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER AND APPROVED BY THE CITY OF SEGUIN PROJECT INSPECTOR. AT A MINIMUM, TESTS SHALL BE TAKEN EVERY 200 LF FOR EACH LIFT AND EVERY OTHER SERVICE LINE. UPON COMPLETION OF TESTING THE GEO-TECHNICAL ENGINEER SHALL PROVIDE THE CITY OF SEGUIN PROJECT INSPECTOR WITH ALL TESTING DOCUMENTATION AND A CERTIFICATION STATING THAT THE PLACEMENT OF FILL MATERIAL HAS BEEN COMPLETED IN ACCORDANCE WITH THE PLANS. ADDITIONAL DENSITY TESTS MAY BE REQUESTED BY THE CITY OF SEGUIN PROJECT INSPECTOR.

THIS PROJECT INCLUDES UTILITY INSTALLATIONS GREATER THAN 5-FEET IN DEPTH LOCATED IN PUBLIC RIGHT-OF-WAY OR EASEMENTS. DEEP TRENCHES POSE COMPACTION TESTING AND CONSTRUCTION CHALLENGES AND CITY METHODS FOR TESTING AND COMPACTION MAY NOT BE ACHIEVABLE. A UTILITY COMPACTION PLAN WILL BE REQUIRED AND MUST BE SUBMITTED FOR APPROVAL TO CITY PRIOR TO UTILITY INSTALLATION.

CONSTRUCTION NOTES:

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2. ALL SEWER PIPE ASTM 3034 (115 PSI) SDR 26
3. ALL MANHOLES SHALL BE 48" DIAMETER, MINIMUM.
4. ALL RING AND COVER SHALL MEET CITY OF SEGUIN STANDARDS.
5. CONTRACTOR TO FIELD VERIFY EXISTING SANITARY SEWER TIE-INS AND CONSTRUCT SEWER FROM DOWNSTREAM TO UPSTREAM.
6. ALL DIMENSIONS ARE FROM FACE OF CURB.
7. MANHOLES MUST BE BOLTED UNLESS WAIVED BY UTILITY ENGINEER.
8. ALL UTILITIES TO BE CONSTRUCTED PRIOR TO STREETS.
9. ALL SANITARY SEWER SERVICE LATERALS SHALL BE 6 INCH DIAMETER PER CITY OF SEGUIN STANDARDS.

UTILITIES

LOCATION AND DEPTH OF EXISTING UTILITIES SHOWN HERE ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF ALL EXISTING UTILITIES ENCOUNTERED DURING CONSTRUCTION, INCLUDING THOSE NOT SHOWN ON THE DRAWINGS.
ANY EXISTING UTILITIES, ON OR OFF THE SITE, THAT ARE DAMAGED OR UNDERCUT BY THE CONTRACTOR'S OPERATIONS SHALL BE REPAIRED OR REPLACED AS DIRECTED BY THE ENGINEER AND APPROVED BY THE RESPECTIVE UTILITY COMPANY AT THE CONTRACTOR'S EXPENSE.
CONTRACTOR SHALL NOTIFY APPROPRIATE UTILITY COMPANIES AND GOVERNMENTAL AGENCIES AT LEAST 48 HOURS PRIOR TO CONSTRUCTION AT:

THE CONTRACTOR SHALL NOTIFY THE FOLLOWING UTILITY COMPANIES 48 HOURS PRIOR TO EXCAVATION

CRYSTAL CLEAR SUD (WATER)	(830) 372-1031
CITY OF SEGUIN (SEWER)	(830) 401-2222
GUADALUPE VALLEY ELECTRIC COMPANY (ELECTRIC)	(830) 857-1200
TIME WARNER CABLE SPECTRUM	(830) 625-3408
AT&T	(830) 303-1333
TEXAS ONE CALL SYSTEM	(800) 245-4545

DUE TO FEDERAL REGULATIONS TITLE 49, PART 192(8), GAS COMPANIES MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT THE WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.

CONTRACTOR SHALL REFERENCE GVEC UTILITIES PLANS FOR FINAL ELECTRICAL LINE DESIGNS AND LAYOUT.

SPECIAL UTILITY NOTES:

1. THE CONTRACTOR TO SUBMIT A WORK PLAN FOR CROSSING THE VISTA RIDGE PIPE AND NOTIFICATION PER ENCROACHMENT AGREEMENT BEFORE COMMENCING WORK WITHIN OR OVER VISTA RIDGE EASEMENT. THE WORK PLAN WILL PROVIDE DETAILS ON CONSTRUCTION METHODS, PIPE PROTECTION, RESTORATION, AND COORDINATION WITH CTRWSC. THE WORK PLAN REQUIRE WRITTEN APPROVAL BY CTRWSC 14 DAYS BEFORE WORKING WITHIN OR CROSSING THE VISTA RIDGE
2. THE WORK PLAN MUST PROVIDE A CROSSING PLAN THAT CLEARLY SHOWS DESIGNATED AREAS WHERE HEAVY EQUIPMENT WILL CROSS OVER THE VISTA RIDGE EASEMENT AND PROVIDE DETAILS FOR PIPELINE PROTECTION INCLUDING THE ASSOCIATED FIBER OPTIC AND CATHODIC PROTECTION INFRASTRUCTURE. THE CONTRACTOR WILL CLEARLY DELINEATE CROSSING LOCATIONS IN THE FIELD USING CONSTRUCTION FENCE OR SIMILAR MATERIALS.
3. NO MECHANICAL EXCAVATION WITHIN TEN FEET (10') OF THE CENTERLINE OF THE VISTA RIDGE PIPELINE UNLESS APPROVED IN WRITING BY CTRWSC. ANY AGREEMENT SHOULD BE PART OF THE WORK PLAN PROVIDED BY THE CONTRACTOR.
4. CTRWSC WILL DESIGNATE A REPRESENTATIVE FOR FIELD OBSERVATION DURING ANY CROSSING OF THE VR LINE. THE CONTRACTOR WILL COORDINATE WITH CTRWSC'S DESIGNATED REPRESENTATIVE 3 BUSINESS DAYS BEFORE CROSSING THE VR PIPELINE. THE CONTRACTOR WILL MAKE ARRANGEMENTS WITH CTRWSC TO PAY FOR OBSERVER TIME INCLUDING TRAVEL TIME TO THE SITE.
5. NO TEMPORARY STOCKPILING OR STATIONING OF MATERIALS, EQUIPMENT OR FACILITIES WITHIN EASEMENT.
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131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

WASTEWATER LINE B PLAN & PROFILE (2 OF 2)

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C7.2

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\CDs\337.116_WWTR LINE B.dwg User: chrisfonc Nov 20, 2025 - 12:06pm

REFER TO THE COVER SHEET
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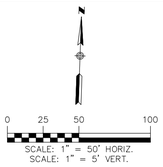

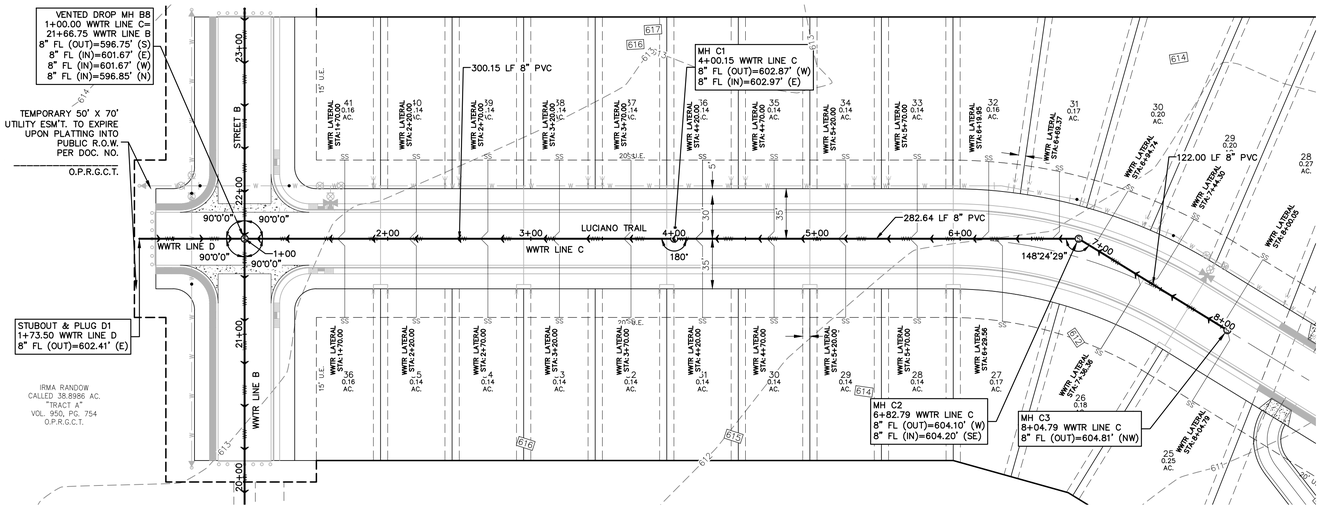

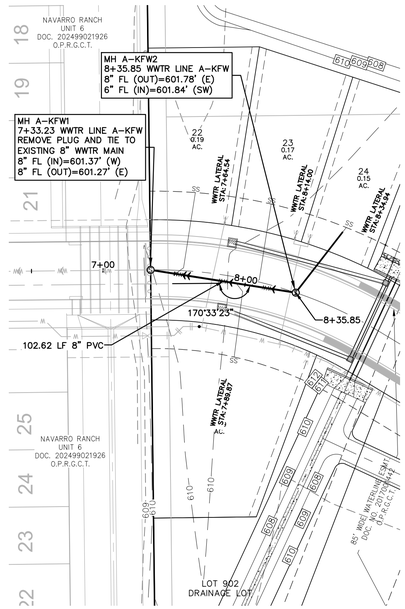

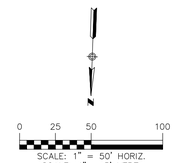

LEGEND

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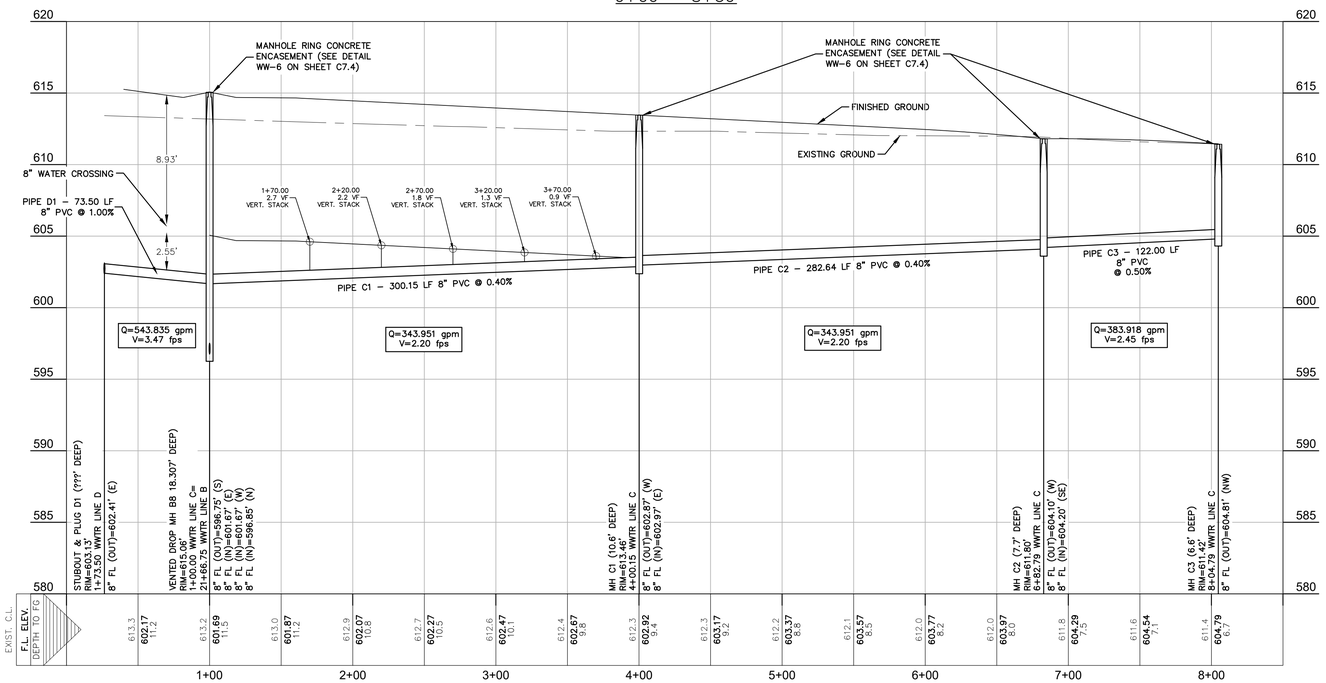
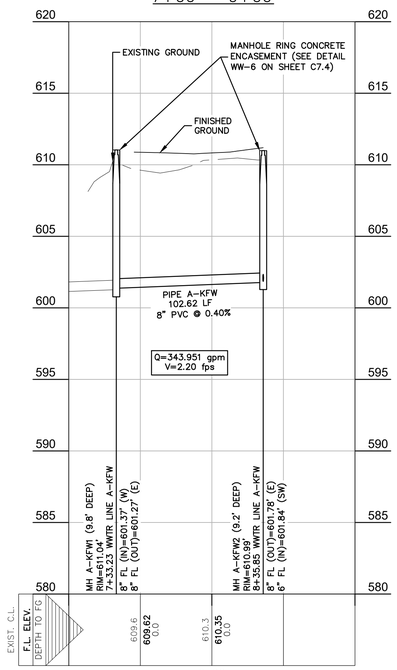
Pipe Segment	Pipe Dia (in)	Slope	LUE	Peak Wet Flow (gpm)	Peak Wet Flow (CFS)	Pipe Capacity (CFS)	PWF V (fps)	PWF Depth (in)	Sufficient Capacity
C1	8	0.40%	27	20.68	0.05	0.77	1.09	1.12	Yes
C2	8	0.40%	16	12.37	0.03	0.77	1.05	0.96	Yes
C3	8	0.50%	5	3.92	0.01	0.86	1.13	0.80	Yes
Pipe Segment	Pipe Dia (in)	Slope	LUE	Peak Wet Flow (gpm)	Peak Wet Flow (CFS)	Pipe Capacity (CFS)	PWF V (fps)	PWF Depth (in)	Sufficient Capacity
D1	8	1.00%	0	0.00	0.00	1.21	1.57	0.74	Yes

Pipe Segment	Pipe Dia (in)	Slope	LUE	Peak Wet Flow (gpm)	Peak Wet Flow (CFS)	Pipe Capacity (CFS)	PWF V (fps)	PWF Depth (in)	Sufficient Capacity
A-KFW	8	0.40%	4	3.14	0.01	0.77	1.01	0.79	Yes

WWTR LINE C & D
0+00 – 8+50



WWTR LINE A-KFW
7+00 – 9+00



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WASTEWATER LINE C & D & A-KFW PLAN & PROFILE

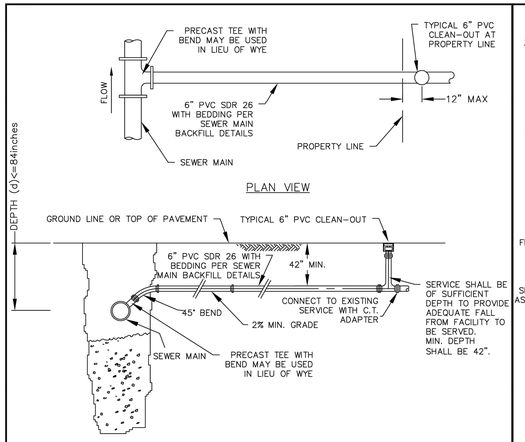
NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C7.3

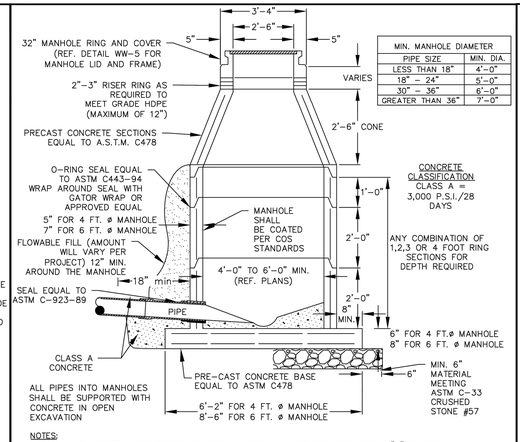
Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\02a\337.116_WWTR LINE C.dwg User: chrisfonc Nov 20, 2025 - 12:06pm



SHALLOW SANITARY SEWER RESIDENTIAL SERVICE CONNECTION

NOTE:
1. SEWER SERVICE LINE BACKFILL SHALL BE IDENTICAL TO SEWER MAIN (WW-8).
2. CITY INSPECTOR SHALL APPROVE DEPTHS UNDER 42" (MIN.)
3. LATERAL DEPTH TO BE 42" MINIMUM TO ENSURE POSITIVE FLOW.
4. SDR 26 PRESSURE RATED PIPE SHALL BE USED IF TRENCH DEPTH IS OVER 15'
5. DUPLEXES, TRIPLEXES AND QUADPLEXES MUST HAVE INDIVIDUAL SERVICE CONNECTIONS PER EACH LIVING UNIT.(DUAL OR SHARED CONNECTIONS TO A SINGLE LATERAL IS NO LONGER ACCEPTED).

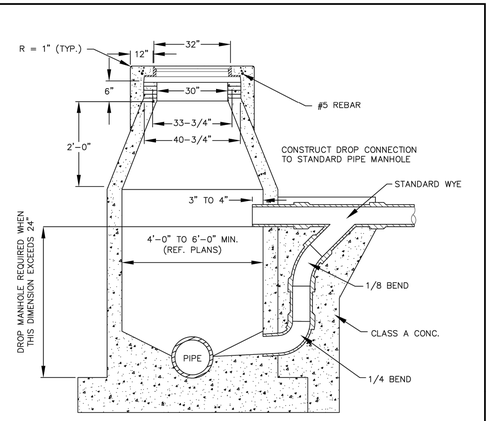
DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	SHALLOW SANITARY SEWER RESIDENTIAL SERVICE CONNECTION
1ST REVISION	8/10/18	DB	
2ND REVISION	6/18/20	CW	
3RD REVISION	10/21/21	DB	
4TH REVISION	11/08/23	DB	SCALE: N.T.S. DRAWING No. WW-1



MIN. MANHOLE DIAMETER	
PIPE SIZE	MIN. DIA.
LESS THAN 18"	4'-0"
18" – 24"	5'-0"
30" – 36"	6'-0"
GREATER THAN 36"	7'-0"

NOTES:
1. MANHOLE INVERTS: THE BOTTOM OF THE MANHOLE SHALL BE PROVIDED WITH A "U" SHAPED CHANNEL THAT IS AS MUCH AS POSSIBLE A SMOOTH CONTINUATION OF THE INLET AND OUTLET PIPES. FOR MANHOLES CONNECTED TO PIPES LESS THAN 15 INCHES IN DIAMETER THE CHANNEL DEPTH SHALL BE AT LEAST HALF THE LARGEST PIPE DIAMETER. FOR MANHOLES CONNECTED TO PIPES 15 TO 24 INCHES IN DIAMETER THE CHANNEL DEPTH SHALL BE AT LEAST THREE FOURTHS THE LARGEST PIPE DIAMETER. IN MANHOLES WITH PIPES OF DIFFERENT SIZES, THE TOES OF THE PIPES SHALL BE PLACED AT THE SAME ELEVATION AND FLOW CHANNELS IN THE INVERT SLOPED ON AN EVEN SLOPE FROM PIPE TO PIPE. THE BENCH PROVIDED ABOVE THE CHANNEL SHALL BE SLOPED AT A MINIMUM OF 0.5 INCH PER FOOT.
2. CONTRACTOR SHALL GROUT THE INTERNAL AND EXTERNAL JOINTS FOR EACH RING SECTION.
3. 0.1' DROP SHALL BE PROVIDED WITHIN THE MANHOLE.
4. MANHOLE SHALL BE COATED PER APPROVED MANUFACTURER'S SPECIFICATIONS OUTLINED IN COS STANDARD PRODUCTS LIST.
5. ALL MANHOLES SHALL BE BOLTED, UNLESS WAIVED BY THE UTILITY ENGINEER.

DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	SANITARY SEWER PRECAST CONCRETE MANHOLE
1ST REVISION	7/29/15	TN	
2ND REVISION	8/10/18	DB	
3RD REVISION	12/08/20	DB	
4TH REVISION	11/08/23	DB	SCALE: N.T.S. DRAWING No. WW-2

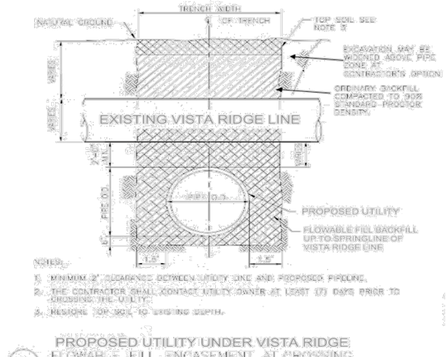


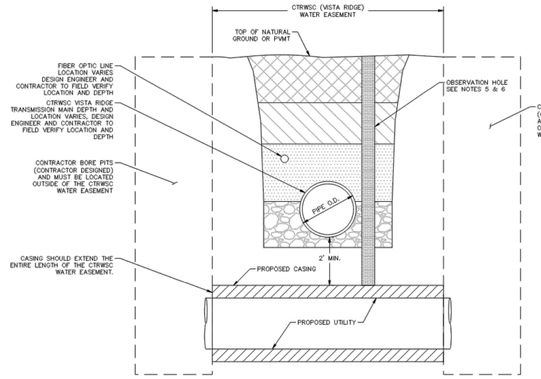
NOTES:
1. CONTRACTOR SHALL GROUT THE INTERNAL AND EXTERNAL JOINTS FOR EACH RING SECTION.
2. DROP SECTION OF PIPE SHALL BE SAME DIAMETER AS SEWER MAIN.
3. PER TCEQ, CHAPTER 217, SECTION 55.L.2.H., "A WASTEWATER COLLECTION SYSTEM PIPE ENTERING A MANHOLE MORE THAN 24 INCHES ABOVE AN INVERT MUST HAVE A DROP PIPE."

DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	SANITARY SEWER DROP MANHOLE
1ST REVISION	7/29/15	TN	
2ND REVISION	12/24/15	AM	
3RD REVISION	5/24/18	DB	SCALE: N.T.S. DRAWING No. WW-3

It's real.

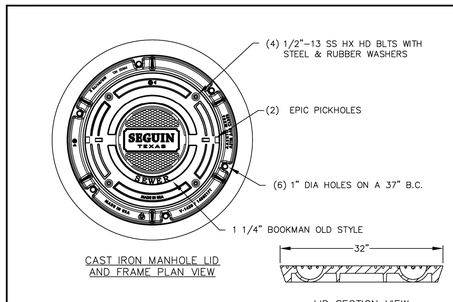
EXHIBIT A - CROSSING EXAMPLE





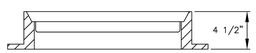
NOTES:
1. MINIMUM 2' CLEARANCE BETWEEN UTILITY LINE AND PROPOSED CASING.
2. THE CONTRACTOR SHALL CONTACT UTILITY OWNER AT LEAST (7) DAYS PRIOR TO CROSSING THE UTILITY
3. IF THE CASING MATERIAL IS METALLIC ENGINEER WILL PROVIDE CATHODIC PROTECTION DEVICES THAT PROTECT THE VISTA RIDGE PIPE. DETAILS TO BE COORDINATED WITH CTRWSC.
4. CONTRACTOR WILL EXPOSE AND MARK THE FIBER OPTIC LINE USING NON-MECHANICAL EXCAVATION.
5. WITH EFCOR REPRESENTATIVE PRESENT, THE CONTRACTOR WILL EXPOSE THE APPROACH SIDE OF THE V.R. PIPELINE TO A DEPTH TWO FEET (3D THAT THE ACTUAL DISTANCE BETWEEN THE EDGE OF THE V.R. PIPE AND THE PROPOSED PIPE, INCLUDING ANY CASING OR BEDDING, IS AT LEAST TWO FEET) USING NON-MECHANICAL EXCAVATION SO THAT CLEARANCE CAN BE VERIFIED DURING CONSTRUCTION. PROTECTION OF THE V.R. LINE FROM CONTRACTOR'S ACTIONS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
6. CONTRACTOR TO BACKFILL OBSERVATION HOLE WITH CLSM UPON COMPLETION.

A PROPOSED UTILITY UNDER VISTA RIDGE
FLOWABLE FILL ENCASEMENT AT CROSSING
N.T.S.



CAST IRON MANHOLE LID AND FRAME PLAN VIEW

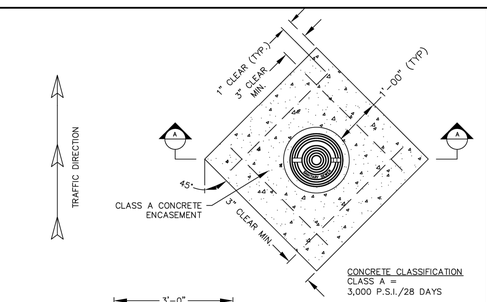
LID SECTION VIEW



FRAME SECTION VIEW

NOTES:
1. MANHOLE LID SHALL BE SOLID AND PROVIDED WITH PICK SLOTS ONLY.
2. 32" HEAVY DUTY MANHOLE FRAME AND COVER IS TO BE CAST 400 LBS WITH A DESIGN STRENGTH OF 4,000 PSI.
3. THE HORIZONTAL BEARING SURFACES ARE TO BE MACHINE FINISHED.
4. THE SOLID LID WILL BE PROVIDED WITH MANUFACTURER'S STANDARD LETTERING SHOWING "SANITARY SEWER".
5. MANHOLE SHALL BE ENCASED PER DETAIL ON SHT. WW-6, MANHOLE RING ENCASEMENT DETAIL.
6. ALL MANHOLES SHALL BE BOLTED, UNLESS WAIVED BY THE UTILITY ENGINEER.
7. FRAME AND COVER ARE MANUFACTURED BY EAST JORDAN IRON COMPANY.
   8.1: BOLTED: COVER V1430APT RING: V1420/1480Z1PT
   8.2: NON-BOLTED: COVER: V1430 RING: V1420/1480Z1

DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	CAST IRON MANHOLE LID AND FRAME
1ST REVISION	06/12/15	TN	
2ND REVISION	12/24/15	AM	
3RD REVISION	03/05/19	MS	
4TH REVISION	11/08/23	DB	SCALE: N.T.S. DRAWING No. WW-5

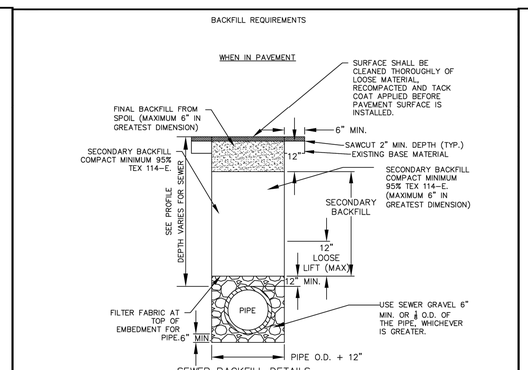


PLAN VIEW

SECTION A-A

NOTES:
1. CONCRETE ENCASEMENT SHALL BE INSTALLED AFTER FINAL PAVEMENT HAS BEEN INSTALLED.
2. MANHOLES SHALL BE LOCATED BY GPS AND PROVIDED TO THE CITY IN TEXAS STATE PLANE COORDINATES, NAD 83 (93), SOUTH CENTRAL ZONE.
3. CONCRETE ENCASEMENT SHALL ALSO BE INSTALLED IN MANHOLES LOCATED IN NATURAL GROUND.

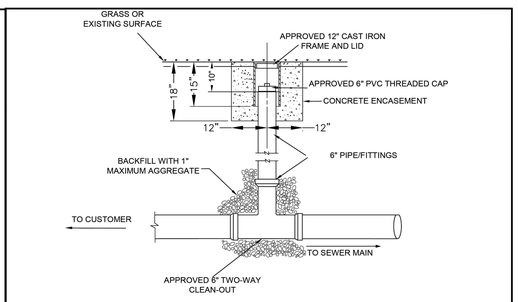
DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	MANHOLE RING ENCASEMENT DETAILS
1ST REVISION	7/29/15	TN	
2ND REVISION	12/24/15	AM	
3RD REVISION	5/24/18	DB	
4TH REVISION	11/08/23	DB	SCALE: N.T.S. DRAWING No. WW-6



SEWER BACKFILL DETAILS

NOTES:
1. FOR ASPHALT OR CONCRETE STREET REPAIRS WHERE THE SAW-CUT PAVEMENT EDGE WILL BE WITHIN 3' OF EDGE OF EXISTING PAVEMENT OR LIP OF GUTTER, THE EXISTING PAVEMENT SURFACE BETWEEN THE DITCH LINE AND EDGE OF PAVEMENT OR LIP OF GUTTER SHALL BE REMOVED AND REPLACED WITH MATERIAL SPECIFIED.
2. FOR STREETS NOT BEING RECONSTRUCTED, SURFACE MATERIALS SHALL BE EQUAL TO MATERIAL REMOVED--MINIMUM AMOUNTS; 2" HMAC (TxDOT ITEM 340, TYPE D); FLEX (CRUSHED STONE) BASE (TxDOT ITEM 247, TYPE A, GRADE 2) COMPACTED IN 6" LIFTS TO 100% DENSITY BY TEX 113-E. EXISTING ASPHALT TO BE SAW CUT.
3. SECONDARY BACKFILL SHALL CONSIST OF 12" LIFTS COMPRISED OF MATERIALS REMOVED FROM THE TRENCH AND SHALL BE FREE OF BRUSH, DEBRIS AND TRASH. MAXIMUM 6" IN GREATEST DIMENSION.
4. A DENSITY TEST SHALL BE PERFORMED ON EACH 12" LIFT, EVERY 200 FEET.
5. INDUCTIVE TRACER DETECTION TAPE SHALL BE PLACED DIRECTLY ABOVE THE CENTERLINE OF ALL NON-METALLIC PIPE A MINIMUM OF 12" BELOW SUBGRADE OR, IN AREAS OUTSIDE THE LIMITS OF PAVEMENT, A MINIMUM OF 18" BELOW FINISHED GRADE. THE TRACER TAPE SHALL BE ENCASED IN A PROTECTIVE, INERT, PLASTIC JACKET AND COLOR CODED ACCORDING TO THE AMERICAN PUBLIC WORKS ASSOCIATION UNIFORM COLOR CODE. EXCEPT FOR MINIMUM DEPTH OF COVER, THE TRACER TAPE SHALL BE PLACED ACCORDING TO THE MANUFACTURE'S RECOMMENDATIONS.
6. FOR PIPE NOT INSTALLED IN PAVEMENT, THE SURFACE OF THE BACKFILLED TRENCH SHALL BE RESTORED TO MATCH PREVIOUS EXISTING CONDITIONS.
7. FOR STREETS BEING RECONSTRUCTED ONLY CONTRACTOR MAY BACKFILL FINAL BASE SECTION DEPTH WITH SPOIL MATERIAL PRIOR TO STREET EXCAVATION TO ALLOW TRAFFIC FLOW. DEPTH VARIES.

DATE ISSUED:	JUNE 1, 2013		TITLE
REVISION	DATE	BY	SEWER BACKFILL DETAIL
1ST REVISION	6/12/15	TN	
2ND REVISION	12/11/15	AM	
3RD REVISION	5/25/18	DB	
4TH REVISION	11/08/23	DB	SCALE: N.T.S. DRAWING No. WW-8



*APPROVED FRAME AND LID (HEAVY DUTY)

NOTES:
1. FOR NEW DEVELOPMENT CLEAN-OUTS MAY NOT BE PLACED IN PAVED AREAS I.E. SIDEWALKS, DRIVEWAYS, OR PARKING LOTS, AND MUST BE LOCATED A MINIMUM OF 6" FROM ALL PAVED AREAS.

DATE ISSUED:	FEBRUARY 1, 2019		TITLE
REVISION	DATE	BY	TYPICAL 6" CLEANOUT DETAIL
1ST REVISION	11/08/23	DB	
			SCALE: N.T.S. DRAWING No. WW-20

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 1053600
HMT ENGINEERING & SURVEYING

STATE OF TEXAS
ZOE F. JASSO
131964
LICENSED PROFESSIONAL ENGINEER
11/20/2025

WASTEWATER DETAILS

NAVARRO SUBDIVISION UNIT 9

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: SEPTEMBER 2025
DRAWN BY: RR
DESIGNED BY: JK
REVIEWED BY: ZJ
HMT PROJECT NO.: 337.116

SHEET
C7.4

Drawing Name: M:_Projects\337 - Lennar Homes\116 - Navarro Ranch Addition - Unit 1\Cds\337.116_WWTR DETAILS.dwg User: christiano Nov 20, 2025 - 12:06pm